**DEPARTMENT OF TRANSPORTATION**

**Federal Railroad Administration**

**49 CFR Parts 223 and 238**

**[Docket No. FRA–2006–25273, Notice No. 2]**

**RIN 2130–AB72**

# Passenger Train Emergency Systems; Emergency Communication, Emergency Egress, and Rescue Access

**AGENCY:** Federal Railroad Administration (FRA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** This final rule is intended to further the safety of passenger train occupants through both enhancements and additions to FRA's existing requirements for emergency systems on passenger trains. In this final rule, FRA is enhancing existing requirements for emergency window exits and establishing requirements for rescue access windows for emergency responders to use to evacuate passenger train occupants. FRA is also enhancing passenger train emergency system requirements by expanding the application of existing requirements that are currently applicable only to passenger trains operating at speeds in excess of 125 mph (Tier II passenger trains) to cover passenger trains operating at speeds at or below 125 mph (Tier I passenger trains) as well; in particular, these enhancements require that Tier I passenger trains be equipped with public address (PA) and intercom systems for emergency communication and that passenger cars provide emergency roof access for use by emergency responders. FRA is applying certain of the requirements to both existing and new passenger equipment, while other requirements apply to new passenger equipment only.

**EFFECTIVE DATE:** The final rule is effective April 1, 2008. The incorporation by reference of a certain publication listed in the rule is approved by the Director of the Federal Register as of April 1, 2008. Petitions for reconsideration of this final rule must be received not later than March 17, 2008.

**ADDRESSES:** Any petition for reconsideration should reference Docket No. FRA–2006–25273, Notice No. 2, and be submitted by any of the following methods:

- *Federal eRulemaking Portal:* Go to *http://www.regulations.gov.* Follow the online instructions for submitting comments.
- *Mail:* Docket Management Facility, U.S. Department of Transportation, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590–0001.
- *Hand Delivery or Courier:* Docket Management Facility, U.S. Department of Transportation, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m. ET, Monday through Friday, except Federal holidays.
- *Fax:* 202–493–2251.

*Instructions:* For detailed instructions on submitting petitions for reconsideration and additional information on the rulemaking process, see the Public Participation heading of the **SUPPLEMENTARY INFORMATION** section of this document. Note that all petitions for reconsideration received will be posted without change to *http://www.regulations.gov,* including any personal information provided. Please see the Privacy Act heading below.

*Docket:* For access to the docket to read background documents, comments, or petitions for reconsideration received, go to *http://www.regulations.gov* anytime, or to the Docket Management Facility, U.S. Department of Transportation, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m. ET, Monday through Friday, except Federal holidays. Follow the online instructions for accessing the dockets.

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## I. Statutory Background

In September of 1994, the Secretary of Transportation (Secretary) convened a meeting of representatives from all sectors of the rail industry with the goal of enhancing rail safety. As one of the initiatives arising from this Rail Safety Summit, the Secretary announced that DOT would begin developing safety standards for rail passenger equipment over a five-year period. In November of 1994, Congress adopted the Secretary's schedule for implementing rail passenger equipment safety regulations and included it in the Federal Railroad Safety Authorization Act of 1994 (the Act), Pub. L. No. 103–440, 108 Stat. 4619, 4623–4624 (November 2, 1994). Congress also authorized the Secretary to consult with various organizations involved in passenger train operations for purposes of prescribing and amending these regulations, as well as issuing orders pursuant to them. Section 215 of the Act is codified at 49 U.S.C. 20133.

## II. Proceedings to Date

### *A. Proceedings To Carry Out the Initial Rulemaking Mandate*

The Secretary delegated these rulemaking responsibilities to the Federal Railroad Administrator, *see* 49 CFR 1.49(m), and FRA formed the Passenger Equipment Safety Standards Working Group to provide FRA with advice in developing the regulations. On June 17, 1996, FRA published an advance notice of proposed rulemaking (ANPRM) concerning the establishment of comprehensive safety standards for railroad passenger equipment. *See* 61 FR 30672. The ANPRM provided background information on the need for such standards, offered preliminary ideas on approaching passenger safety issues, and presented questions on various passenger safety topics. Following consideration of comments received on the ANPRM and advice from FRA's Passenger Equipment Safety Standards Working Group, FRA published an NPRM on September 23, 1997, to establish comprehensive safety standards for railroad passenger equipment. *See* 62 FR 49728. In addition to requesting written comment on the NPRM, FRA also solicited oral comment at a public hearing held on November 21, 1997. FRA considered the comments received on the NPRM and prepared a final rule establishing comprehensive safety standards for passenger equipment, which was published on May 12, 1999. *See* 64 FR 25540.

After publication of the final rule, interested parties filed petitions seeking FRA's reconsideration of certain requirements contained in the rule. These petitions generally related to the following subject areas: structural design; fire safety; training; inspection, testing, and maintenance; and movement of defective equipment. To address the petitions, FRA grouped issues together and published in the **Federal Register** three sets of amendments to the final rule. Each set of amendments summarized the petition requests at issue, explained what action, if any, FRA decided to take in response to the issues raised, and described FRA's justifications for its decisions and any action taken. Specifically, on July 3, 2000, FRA issued a response to the petitions for reconsideration relating to the inspection, testing, and maintenance of passenger equipment, the movement of defective passenger equipment, and other miscellaneous provisions related to mechanical issues contained in the final rule. *See* 65 FR 41284. On April 23, 2002, FRA responded to all remaining issues raised in the petitions for reconsideration, with the exception of those relating to fire safety. *See* 67 FR 19970. Finally, on June 25, 2002, FRA completed its response to the petitions for reconsideration by publishing a response to the petitions for reconsideration concerning the fire safety portion of the rule. *See* 67 FR 42892. (For more detailed information on the petitions for reconsideration and FRA's response to them, please see these three rulemaking documents.) The product of this rulemaking was codified primarily at 49 CFR part 238 and secondarily at 49 CFR parts 216, 223, 229, 231, and 232.

Meanwhile, another rulemaking on passenger train emergency preparedness produced a final rule codified at 49 CFR part 239. *See* 63 FR 24629 (May 4, 1998). The rule addresses passenger train emergencies of various kinds, including security situations, and requires the preparation, adoption, and implementation of emergency preparedness plans by railroads connected with the operation of passenger trains. The emergency preparedness plans must include elements such as communication, employee training and qualification, joint operations, tunnel safety, liaison with emergency responders, on-board emergency equipment, and passenger safety information. The rule requires each affected railroad to instruct its employees on the applicable provisions of its plan, and the plan adopted by each railroad is subject to formal review and approval by FRA. The rule also requires each railroad operating passenger train service to conduct emergency simulations to determine its capability to execute the emergency preparedness plan under the variety of emergency scenarios that could reasonably be expected to occur.

In addition, in promulgating the rule, FRA established specific requirements for passenger train emergency systems. Among these are requirements that all emergency window exits and all windows intended for rescue access by emergency responders be marked and that instructions be provided for their use; and also requirements that all door exits intended for egress be lighted or marked, all door exits intended for rescue access by emergency responders be marked, and that instructions be provided for their use.

### *B. Key Issues Identified for Future Rulemaking*

While FRA had completed these rulemakings, FRA had identified various issues for possible future rulemaking, including those to be addressed following the completion of additional research, the gathering of additional operating experience, or the development of industry standards, or all three. One such issue concerned expanding the application of emergency system requirements pertaining to Tier II passenger equipment to Tier I passenger equipment as well. Another issue concerned specifying minimum numbers and locations of windows intended for emergency responder access to passenger cars, as 49 CFR 223.9(d)(2) addressed only marking and instruction requirements and did not provide any express requirement that any rescue access windows be present. FRA and interested industry members also began identifying other issues related to the new passenger equipment safety standards and the passenger train emergency preparedness regulations. FRA decided to address these issues with the assistance of RSAC.

### *C. RSAC Overview*

In March 1996, FRA established RSAC, which provides a forum for developing consensus recommendations to FRA's Administrator on rulemakings and other safety program issues. The Committee includes representation from all of the agency's major customer groups, including railroads, labor organizations, suppliers and manufacturers, and other interested parties. A list of member groups follows:

- American Association of Private Railroad Car Owners (AAPRCO);
- American Association of State Highway and Transportation Officials (AASHTO);
- American Chemistry Council;
- American Petroleum Institute;
- APTA;
- American Short Line and Regional Railroad Association (ASLRRA);
- American Train Dispatchers Association;
- Association of American Railroads (AAR);
- Association of Railway Museums;
- Association of State Rail Safety Managers (ASRSM);
- Brotherhood of Locomotive Engineers and Trainmen (BLET);
- Brotherhood of Maintenance of Way Employees Division;
- Brotherhood of Railroad Signalmen (BRS);
- Chlorine Institute;
- Federal Transit Administration (FTA)*;
- Fertilizer Institute;
- High Speed Ground Transportation Association (HSGTA);
- Institute of Makers of Explosives;
- International Association of Machinists and Aerospace Workers;
- International Brotherhood of Electrical Workers (IBEW);

- Labor Council for Latin American Advancement*;
- League of Railway Industry Women*;
- National Association of Railroad Passengers (NARP);
- National Association of Railway Business Women*;
- National Conference of Firemen & Oilers;
- National Railroad Construction and Maintenance Association;
- National Railroad Passenger Corporation (Amtrak);
- NTSB *;
- Railway Supply Institute (RSI);

Indicates associate, non-voting membership.

- Safe Travel America (STA);
- Secretaria de Comunicaciones y Transporte*;
- Sheet Metal Workers International Association (SMWIA);
- Tourist Railway Association, Inc.;
- Transport Canada*;
- Transport Workers Union of America (TWU);
- Transportation Communications International Union/BRC (TCIU/BRC);
- Transportation Security Administration (TSA)*; and
- United Transportation Union (UTU).

* Indicates associate, non-voting membership.

When appropriate, FRA assigns a task to RSAC, and after consideration and debate, RSAC may accept or reject the task. If the task is accepted, RSAC establishes a working group that possesses the appropriate expertise and representation of interests to develop recommendations to FRA for action on the task. These recommendations are developed by consensus. A working group may establish one or more task forces to develop facts and options on a particular aspect of a given task. The individual task force then provides that information to the working group for consideration. If a working group comes to unanimous consensus on recommendations for action, the package is presented to the full RSAC for a vote. If the proposal is accepted by a simple majority of RSAC, the proposal is formally recommended to FRA. FRA then determines what action to take on the recommendation. Because FRA staff play an active role at the working group level in discussing the issues and options and in drafting the language of the consensus proposal, FRA is often favorably inclined toward the RSAC recommendation. However, FRA is in no way bound to follow the recommendation, and the agency exercises its independent judgment on whether the recommended rule achieves the agency's regulatory goal, is soundly supported, and is in accordance with policy and legal requirements. Often, FRA varies in some respects from the RSAC recommendation in developing the actual regulatory proposal or final rule. Any such variations would be noted and explained in the rulemaking document issued by FRA. If the working group or RSAC is unable to reach consensus on a recommendation for action, FRA moves ahead to resolve the issue through traditional rulemaking proceedings.

*D. Establishment of the Passenger Safety Working Group*

On May 20, 2003, FRA presented, and RSAC accepted, the task of reviewing existing passenger equipment safety needs and programs and recommending consideration of specific actions that could be useful in advancing the safety of rail passenger service. The RSAC established the Passenger Safety Working Group (Working Group) to handle this task and develop recommendations for the full RSAC to consider. Members of the Working Group, in addition to FRA, include the following:

- AAR, including members from BNSF Railway Company (BNSF), CSX Transportation, Inc., and Union Pacific Railroad Company;
- AAPRCO;
- AASHTO;
- Amtrak;
- APTA, including members from Bombardier, Inc., LDK Engineering, Herzog Transit Services, Inc., Long Island Rail Road (LIRR), Metro-North Commuter Railroad Company (Metro-North), Northeast Illinois Regional Commuter Railroad Corporation (Metra), Southern California Regional Rail Authority (Metrolink), and Southeastern Pennsylvania Transportation Authority (SEPTA);
- BLET;
- BRS;
- FTA;
- HSGTA;
- IBEW;
- NARP;
- RSI;
- SMWIA;
- STA;
- TCIU/BRC;
- TWU; and
- UTU.

Staff from DOT's John A. Volpe National Transportation Systems Center (Volpe Center) attended all of the meetings and contributed to the technical discussions. In addition, staff from the NTSB met with the Working Group when possible. The Working Group has held ten meetings on the following dates and locations:

- September 9–10, 2003, in Washington, DC;
- November 6, 2003, in Philadelphia, PA;
- May 11, 2004, in Schaumburg, IL;
- October 26–27, 2004 in Linthicum/Baltimore, MD;
- March 9–10, 2005, in Ft. Lauderdale, FL;
- September 7, 2005 in Chicago, IL;
- March 21–22, 2006 in Ft. Lauderdale, FL;
- September 12–13, 2006 in Orlando, FL;
- April 17–18, 2007 in Orlando, FL; and
- December 11, 2007 in Ft. Lauderdale, FL.

At the meetings in Chicago and Ft. Lauderdale in 2005, FRA met with representatives of Tri-County Commuter Rail and Metra, respectively, and toured their passenger equipment. The visits, which included demonstrations of emergency system features, were open to all members of the Working Group, and FRA believes they have added to the collective understanding of the Group in identifying and addressing passenger train emergency system issues.

*E. Establishment of the Emergency Preparedness Task Force*

Due to the variety of issues involved, at its November 2003 meeting the Working Group established four task forces—smaller groups to develop recommendations on specific issues within each group's particular area of expertise. Members of the task forces include various representatives from the respective organizations that were part of the larger Working Group. One of these task forces was assigned the job of identifying and developing issues and recommendations specifically related to the inspection, testing, and operation of passenger equipment as well as concerns related to the attachment of safety appliances on passenger equipment. An NPRM on these topics was published on December 8, 2005 (*see* 70 FR 73069), and a final rule was published on October 19, 2006 (*see* 71 FR 61835). Another of these task forces was assigned the job of developing recommendations related to window glazing integrity, structural crashworthiness, and the protection of occupants during accidents and incidents. This work of this task force led to the publication of an NPRM focused on enhancing the front-end strength of cab cars and multiple-unit (MU) locomotives on August 1, 2007. *See* 72 FR 42016. Another task force, the Emergency Preparedness Task Force (Task Force), was established to identify

issues and develop recommendations related to emergency systems, procedures, and equipment. Specifically, the Task Force was charged with evaluating APTA's standards for emergency systems for their incorporation by reference as Federal standards and requirements. These APTA standards are aimed at promoting the ability of passenger car occupants to reach, identify, and operate emergency exits under various conditions. The Task Force was also given the responsibility of addressing a number of other emergency systems issues and to recommend any research necessary to facilitate their resolution. Members of the Task Force, in addition to FRA, include, or have included, the following:

- Amtrak;
- APTA, including members from Bombardier, Ellcon National, Go Transit, Interfleet, Jacobs Civil Engineering, Jessup Manufacturing Company, Kawasaki Rail Car, Inc., LDK Engineering, LIRR, LTK, Luminator, Maryland Transit Administration, Massachusetts Bay Transportation Authority (MBTA), Metrolink, Metro-North, Northern Indiana Commuter Transit District (NICTD), SEPTA, San Diego Northern Commuter Railroad (Coaster), Permalight, PO's Ability USA, Inc., Prolink, Transit Design Group (TDG),Transit Safety Management (TSM), Translite, STV Inc., and Visual Marking Systems, Inc.;
- BLET;
- California Department of Transportation (Caltrans);
- FTA;
- NARP;
- RSI, including Globe Transportation Graphics;
- TWU; and
- UTU.

While not voting members of the Task Force, representatives from the NTSB and from TSA, of the U.S. Department of Homeland Security (DHS), attended certain of the meetings and contributed to the discussions of the Task Force. In addition, staff from the Volpe Center attended all of the meetings and contributed to the technical discussions through their comments and presentations and by setting up various lighting, marking, and signage demonstrations.

The Task Force has held 15 meetings on the following dates and locations:

- February 25–26, 2004, in Los Angeles, CA;
- April 14–15, 2004, in Cambridge, MA;
- July 7–8, 2004, in Washington, DC;
- September 13–14, 2004, in New York, NY;
- December 1–2, 2004, in San Diego, CA;
- February 16–17, 2005, in Philadelphia, PA;
- April 19–20, 2005, in Cambridge, MA;
- August 2–3, 2005, in Cambridge, MA;
- December 13–14, 2005, in Baltimore, MD;
- August 10, 2006, in Grapevine, TX;
- October 25–26, 2006, in Philadelphia, PA;
- December 6–7, 2006, in Washington, DC;
- March 28–29, 2007, in Los Angeles, CA;
- June 13–14, 2007, in San Francisco, CA; and
- October 17–18, 2007, in Arlington, VA.

At meetings in Los Angeles, Cambridge, Washington, New York, San Diego, Philadelphia, and San Francisco, FRA met with representatives of Metrolink, MBTA, Amtrak, LIRR, Coaster, SEPTA, and Caltrans, respectively, and toured their passenger equipment. The visits were open to all members of the Task Force and included demonstration of emergency system features. As in the case of the Working Group visits, FRA believes they have added to the collective understanding of the Task Force in identifying and addressing passenger train emergency system issues for not only this rulemaking, but for future rulemakings as well.

*F. Development of the NPRM*

The NPRM was developed to address a number of the concerns raised and issues discussed during the various Task Force and Working Group meetings. Minutes of each of these meetings have been made part of the docket in this proceeding and are available for public inspection. The Working Group reached full consensus on all the regulatory provisions contained in the NPRM at its meetings in March and September 2005. After the March 2005 meeting, the Working Group presented its recommendations to the full RSAC for concurrence at its meeting in May 2005. All of the members of the full RSAC in attendance at its May 2005 meeting accepted the regulatory recommendations submitted by the Working Group. Thus, the Working Group's recommendations became the full RSAC's recommendations to FRA. In October 2005, the full RSAC also recommended that FRA adopt a further recommendation from the Working Group at its September 2005 meeting—that FRA grant additional time for compliance with the proposal on rescue access windows. After reviewing the full RSAC's recommendations, FRA agreed that the recommendations provided a sound basis for a proposed rule and adopted the recommendations with generally minor changes for purposes of clarity and formatting in the **Federal Register**.

The NPRM was published in the **Federal Register** on August 24, 2006 (*see* 71 FR 50276), and FRA solicited public comment on it. FRA specifically invited comment on a number of issues related to the proposed requirements for the purpose of developing the final rule, in addition to notifying the public of its option to submit written comments on the NPRM and to request a public, oral hearing on the NPRM.

*G. Development of the Final Rule, including Response to Written Comments*

This final rule is the product of FRA's review, consideration, and acceptance of the recommendations of the Task Force, Working Group, and full RSAC, and of the written comments on which they are based. FRA received two written comments in response to the publication of the NPRM: one from the NTSB; the other from Caltrans. The NTSB indicated that the NPRM was consistent with the intent of its safety recommendation to FRA relevant to these emergency systems, and expressed support for the proposed emergency communication system and emergency roof access requirements. Caltrans' comments related to the requirement for staggering the location of emergency window exits to the extent practical and to the proposed requirement for inspecting emergency roof access markings. As explained further below, after discussing the comments with the Task Force, the Task Force made consensus recommendations to resolve Caltrans' two concerns by clarifying in this preamble the requirement for staggering, and by granting Caltrans' request to extend the interval between inspections for roof access markings to a maximum of 368 days, instead of the 184 days that FRA had proposed. FRA agrees with the underlying rationale for these recommendations and has modified the final rule accordingly. FRA did not receive a request for a public, oral hearing on the NPRM, and none was held.

Throughout the preamble discussion of this final rule, FRA refers to comments, views, suggestions, or recommendations made by members of the Task Force, Working Group, and full RSAC, as they are identified or contained in the minutes of their

meetings. FRA does so to show the origin of certain issues and the nature of discussions concerning those issues at the Task Force, Working Group, and full RSAC level. FRA believes this serves to illuminate factors that it has weighed in making its regulatory decisions, as well as the logic behind those decisions. The reader should keep in mind, of course, that only the full RSAC makes recommendations to FRA and that it is the consensus recommendation of the full RSAC on which FRA is acting. However, as noted above, FRA is in no way bound to follow the recommendation, and the agency exercises its independent judgment on whether the recommended rule achieves the agency's regulatory goal, is soundly supported, and is in accordance with policy and legal requirements.

## III. Technical Background

Trends in new passenger car orders, experience with passenger train accidents, concern about emergency communication, and technological advances in emergency systems provided the main impetus for these enhancements and additions to FRA's standards for passenger train emergency systems, as highlighted below.

### *A. Change in the Composition of the Passenger Car Fleet*

While FRA was developing the Passenger Equipment Safety Standards and the Passenger Train Emergency Preparedness regulations in the 1990s, the operation of multi-level passenger cars having two seating levels for passengers (*i.e.*, bi-level cars) was common. However, the operation of multi-level passenger cars having three seating levels for passengers (*i.e.*, cars with intermediate (or mezzanine) seating levels) was not as prevalent in the U.S. as it is today. As a result, in those rulemakings there was less focus on the need for applying emergency system safety standards to intermediate seating levels of multi-level passenger cars.

Since that time, the composition of the Nation's commuter rail fleet has changed. Multi-level passenger cars with passenger seating in intermediate levels have become more prevalent and now account for over 15 percent of all passenger cars. The intermediate seating levels in these multi-level passenger cars are normally located at the far ends of the cars and are connected to the upper and lower seating levels by stairs. Exterior side doors are also often located toward the ends of these cars to facilitate boarding and de-boarding. Given the constraint posed by station platform lengths and the desire to minimize station dwell time, railroads have turned to multi-level passenger cars with intermediate seating levels to meet much of the increased demand for service, to the extent that vertical clearances permit their operation.

In light of the growing use of multi-level passenger cars with intermediate seating levels, this final rule helps to address the need to provide more explicit emergency system safety standards for these passenger cars.

### *B. NTSB Safety Recommendation on Windows*

On April 23, 2002, a BNSF freight train collided head on with a standing Metrolink passenger train near Placentia, CA, resulting in two fatalities and numerous injuries on the Metrolink train. Though not a contributing factor to the fatalities or injuries, the force of the collision blocked the rear end door and also blocked the rear stairway linking the upper and lower seating levels to the seating area on the intermediate level at the rear of the Metrolink cab car. Although passengers in that intermediate level seating area did exit through an emergency window, no windows on the intermediate level had been designated for rescue access, and consequently no instructions for emergency responders to gain access to the intermediate level through a window had been posted. Concerned with the extent of Federal requirements relating to rescuing passengers from the intermediate level of a multi-level passenger car, the NTSB issued Safety Recommendation R–03–21 to FRA on November 6, 2003. Safety Recommendation R–03–21 provides in full as follows:

> Revise the language of 49 Code of Federal Regulations 238.113(a)(1) to reflect that appropriate exterior instructional signage describing the emergency removal procedure be required at emergency windows on all levels of a multiple-level passenger railcar.

In a February 20, 2004 letter to the NTSB, FRA noted that its existing regulations do require that windows intended for emergency responder access on every level of a multi-level passenger car be clearly marked and that clear and understandable instructions for their removal be posted at or near the windows on the car's exterior. *See* 49 CFR 223.9(d)(2). FRA also sent a letter to passenger railroads to make this clear in the event there was any confusion about these requirements. Nevertheless, the NTSB's recommendation highlighted the fact that several related concerns were not specifically addressed in FRA's regulations. One of these concerns was specifying minimum numbers and locations of windows intended for emergency responder access to passenger cars, as 49 CFR 223.9(d)(2) addressed only marking and instruction requirements and did not provide any express requirement that any such rescue access windows be present. A second prominent issue concerned specifying minimum numbers and locations of emergency window exits on any level of a multi-level passenger car—not just on main levels, as then provided in 49 CFR 238.113(a)(1).

FRA informed the NTSB that it was reviewing and considering the necessity of making amendments to its safety standards for passenger trains through the RSAC process and that these and other passenger safety issues would be presented to the Working Group and the Task Force for their consideration. Therefore, FRA asked that the NTSB classify Safety Recommendation R–03–21 as ''Open—Acceptable Response,'' pending the results of this effort. (The NTSB classification ''Open—Acceptable Response'' means a ''[r]esponse by recipient indicates a planned action that would comply with the safety recommendation when completed.'') By letter dated June 2, 2004, the NTSB formally classified the recommendation as FRA requested.

The Task Force reviewed the NTSB's recommendation and the related issues that FRA presented to it and agreed to address emergency window exits and rescue access windows on a broad basis, with the goal that windows for emergency egress and rescue access would be available on every level of a passenger car in the event that a stairway or interior door is compromised and access to the primary means of exit (doors) is blocked. To this end, the Task Force agreed to develop requirements for emergency window exits on non-main levels of multi-level passenger cars, and rescue access windows on all levels of these cars, thus addressing requirements for every seating level of a passenger car.

### *C. Need for Emergency Communication Systems*

Traditionally, conductors and assistant conductors have been relied upon to relay information to passengers in both normal and emergency situations through face-to-face communication or by use of the PA system. However, with smaller crew sizes, passengers may not be able to tell the crew about a medical emergency, report a fire on board the train, or provide notification of other safety issues as quickly as may be necessary. For instance, a passenger in the last car of a train needing to report an

emergency situation could potentially have to walk the entire length of the train to communicate with the conductor (assuming the crew is composed of an engineer and only one conductor). Further, if the conductor became incapacitated, passengers would need to communicate directly with the engineer.

FRA also notes that the NTSB's report on its investigation of the February 9, 1996 collision near Secaucus, NJ, that involved two New Jersey Transit Rail Operations (NJTR) trains and resulted in three fatalities and numerous injuries, touches on the importance of emergency communication systems to prevent panic and further injuries. According to the NTSB report of the accident investigation,

> [a]lthough the train crews said that they went from car to car instructing passengers to remain seated, passengers said that they were not told about the severity of the situation and were concerned about a possible fire or being struck by an oncoming train. They therefore left the train and wandered around the tracks waiting for guidance, potentially posing a greater hazard because of the leaking fuel from train 1107.
>
> No crewmember used the public address system to communicate with passengers. By using the public address system, all passengers would have received the same message in less time than it would have taken the NJT employees to walk from car to car.

The report also stated:

> Information about the possibility of a fire or a collision with an oncoming train could have been provided to passengers over the public address system to address their concerns and prevent them from leaving the train. The Safety Board concludes that the lack of public announcements addressing the passengers' concerns caused them to act independently, evacuate the train, and wander along the tracks, thus potentially contributing to the dangerous conditions at the collision site.

NTSB/RAR–97/01, at p. 27.

In 1998, APTA recognized the importance of emergency communication systems when it issued APTA SS–PS–001–98, ''Standard for Passenger Railroad Emergency Communications,'' noting that the establishment and execution of communications among train crews, operations control personnel, and train passengers are of the utmost importance under normal circumstances. According to the APTA standard, during emergency situations such communications take on added importance in the task of assuring the safety of all involved.

While the Passenger Equipment Safety Standards issued in 1999 by FRA contain requirements for two-way emergency communication systems for Tier II passenger equipment (trains operating at speeds exceeding 125 mph, but not exceeding 150 mph), there are no requirements that Tier I passenger cars be equipped with any emergency communication system. In that rulemaking, concern had been raised about the practicability of applying such requirements to Tier I passenger equipment because of the interoperability of such equipment and the possible incompatibility of communications equipment in a Tier I passenger train. *See* 64 FR 25540, 25641 (May 12, 1999). Nevertheless, most existing passenger cars are equipped with PA systems, and intercom systems are common in new passenger cars.

FRA notes that, while there are many possible ways for an emergency situation to arise on a passenger train, an emergency system may be useful in many situations, regardless of the origin of the emergency. In this regard, emergency communication systems provide the added benefit of conveying information about security threats and handling security concerns. According to TSA, terrorists have considered attacks on subways and trains in the U.S., and TSA has found that passenger railroads and subways in the U.S. are particularly high-consequence targets in terms of potential loss of life and economic disruption. DHS, including TSA, as well as DOT's FRA and FTA have been actively engaged in responding to the threat of terrorism to our Nation's rail system, and have undertaken numerous initiatives to advance the safety and security of railroad passengers, railroad employees, and the public as a whole. Consistent with this response, the ability of passengers to timely report suspicious items and suspicious activity onboard passenger trains to appropriate personnel increases the likelihood of detecting terrorist planning activity or an attempted attack and thwarting it, or at least disrupting it and minimizing its consequences. This would also be facilitated by the ability of the train crew to timely communicate emergency information and instructions to passengers in response to a security threat.

FRA also notes that emergency system requirements for such features as emergency window exits and emergency lighting, which were not specifically developed to address security threats, may play a critical role in minimizing the consequences of a terrorist attack onboard a passenger train. The safety and security functions that passenger train emergency systems may serve make them vital, and further enhancements and additions to emergency systems should be explored both to reduce the risk of a terrorist attack to passenger trains, to minimize the consequences of such an attack if it occurs, and to promote passenger train safety overall.

*D. Window Technology*

A ''zip-strip'' is a strip of rubber gasketing that holds a window panel in place and is capable of being pulled, or pried and then pulled, like a zipper from the panel that it holds. Zip-strips have been used for window removal for some time. Yet, the introduction of windows using zips-strips on both faces of the same window has allowed railroads to designate for rescue access those windows that are best suited for that purpose, without impacting the selection of emergency window exits or compromising compliance with safety glazing requirements. Before this technology was available, railroads that used zip-strips for window removal had to decide which windows would be designated for emergency egress and which would be designated for rescue access, as there was only one zip-strip available to open. Equipping cars with more rescue access windows with zip-strips meant having fewer emergency window exits, all things being equal, even though it would be preferable to have more emergency window exits than rescue access windows as occupants should normally begin to self-evacuate via emergency window exits before emergency responders arrive to assist. Whereas railroads could generally designate any window for rescue access by providing instructions for removal using tools normally available to emergency responders to pop out a window, such as a sledge hammer or a fire axe, some railroads prefer to equip windows with exterior zips-strips for rescue access because they allow for window removal with less effort.

In the NPRM, FRA did not propose that the rule require the use of zip-strips for rescue access windows. Nevertheless, FRA did propose to recognize ''dual-function windows,'' which serve as both emergency exit and rescue access windows, through the use of zip-strips on both faces of the window. FRA has adopted this proposal in the final rule. As explained below, ''dual-function windows'' afford railroads additional flexibility in the location of their windows in that railroads are not required to find locations for emergency window exits distinct from the locations specified for rescue access windows, and vice-versa.

*E. APTA's Standard for Emergency Evacuation Units*

As FRA noted in the preamble to the final rule promulgating the Passenger Equipment Safety Standards, FRA has had under consideration a performance standard for emergency evacuation similar to that used in commercial aviation where a sufficient number of emergency exits must be provided to evacuate the maximum passenger load in a specified time for various types of emergency situations. *See* 64 FR 25550. FRA further noted that it would evaluate whether an APTA performance standard for emergency egress, then under development in APTA's PRESS Task Force, should be incorporated into FRA's standards. 64 FR 25551. FRA's intent is that such a performance standard would serve to supplement, as necessary, FRA's minimum requirements for emergency window exits and door exits.

In 1999, APTA issued APTA SS–PS–003–98, ''Standard for Emergency Evacuation Units for Rail Passenger Cars.'' This standard assigns to doors and window exits a numerical value, referred to as an ''emergency evacuation unit'' (EEU), that is intended to correlate to the speed and ease of passenger egress. Each emergency window exit is assigned an EEU of 1, and each door leaf an EEU of 2. The standard defines the ''usable exit path'' (UXP) as the number of emergency window and door exits that can be used by passengers after an incident that requires emergency egress from the vehicle, and provides that the UXP be calculated as ''the sum of EEUs for one side of the car less 50% of car end doors.'' The APTA standard also requires railroads to assign to each new passenger car a ''capacity exit factor'' (CXF), which is a value equal to the seating capacity of the car divided by 17 and rounded up to the next whole number, and to designate a sufficient number of exits to achieve a total EEU value equal to or larger than the CXF or the UXP.

Although the basic approach to establishing egress requirements based on car configuration and occupant capacity was widely accepted, during development of the APTA standard several organizations raised issues regarding the methodology for assigning EEU values to exits. For instance, Volpe Center staff suggested that point values for windows be reduced to numbers that are approximately in proportion to estimated passenger flow rates as compared with low-platform doors without steps, and that upper-level windows receive no credit toward the minimum EEU criterion but still be required to provide exit paths for certain rare accident scenarios. It was also questioned whether egress rates through windows could be half as great as through single-leaf doors, as implied by the standard.

The Task Force reviewed the APTA standard and recommended the continuation of evacuation test experiments and research to establish relative exit flow rates using different types of exits at distinct locations in the car, prior to considering adoption of the APTA standard into FRA's standards. To this end, the Volpe Center conducted a series of test experiments on commuter rail car evacuation in August 2005, and in April and May 2006, in Boston, MA, with the cooperation of the MBTA. Test experiments were conducted under normal and emergency lighting conditions, and evaluated three different ways of evacuating a car: Directly into an adjoining car; to a high platform using one or more side doors; and to a simulated, low platform using side doors with stairways. A report, which is in the process of being finalized, will document the results of these test experiments. (Due to safety concerns, it is not anticipated that test experiments will be conducted using windows as a means of emergency egress.) FRA does note that the emergency evacuation approach underlying the requirements in this final rule is consistent with the basic approach taken in developing APTA's standard, as the requirements do take into consideration both car configuration and occupant capacity.

## IV. General Overview of Requirements

*A. Emergency Window Exits and Rescue Access Windows*

Among the most prominent issues identified for consideration by the Working Group were those involving emergency window exits and rescue access windows and how these windows relate to the emergency systems requirements overall. Emergency window exits are intended to supplement door exits, which serve as the preferred means of egress in an emergency situation, and provide an alternative means of emergency egress in life-threatening situations, should doors be rendered inaccessible or inoperable. Prior to this rulemaking FRA's regulations had required that each single-level car and each main level of a multi-level passenger car have a minimum of four emergency window exits, either in a staggered configuration where practical or with one exit located in each side of each end, on each level; that these windows be designed to permit rapid and easy removal during an emergency without the use of a tool or other implement; and that conspicuous photo-luminescent marking of the windows, as well as instructions for their use, be provided. FRA's regulations had also required that windows intended for rescue access be marked with retroreflective material, and that instructions for their use also be provided. However, FRA's regulations did not require any minimum number of rescue access windows for passenger cars.

One of the basic principles underlying the final rule's requirements for both emergency window exits and rescue access windows has been to locate these windows in such a manner that passengers would be able to exit from, and emergency responders would be able to gain direct access to, each passenger compartment without requiring that they first go to another level of a car or through an interior door. Optimally, there would be a sufficient number of windows for passengers to exit from, and for emergency responders to get access to, the following: (i) Every level with passenger seating of a multi-level passenger railcar; (ii) both sides of the passenger railcar, in the event of a derailment where the exits on one side are compromised; and (iii) each end (half) of the passenger railcar, in the event that one end is crushed or the exits on that end are otherwise rendered inaccessible or inoperable. A constraint for both new and existing intermediate levels of multi-level passenger car designs is that there is limited space for side windows due to the presence of bathrooms, equipment closets, and side door exits. Thus, the Task Force recommended making the requirements flexible and consistent with existing car designs and, in certain cases, providing for exceptions. The exceptions for new equipment are limited to situations that arise from the need to provide accessible accommodations under the Americans with Disabilities Act of 1990 (ADA) in compartments where there are no more than four seats and a suitable alternative is provided. The Task Force recommended greater flexibility for existing equipment to avoid costly window installations where none had previously existed (*e.g.*, relocating an electrical closet so that a space large enough to accommodate a new window could be cut into the side of the car).

During Task Force discussions, it became apparent that the phrase ''rapid and easy'' in the emergency window exit regulation was being interpreted in different ways by commuter railroads and car manufacturers. Some believed

that only the removal of the gasket had to be rapid and easy; however, FRA clarified that while FRA may have cited examples of gaskets that were becoming stuck and were therefore not removable in a rapid and easy fashion, the central goal of this provision is to create an opening that could be used for egress, which necessarily includes removal of the window panel as well. If the removal of the gasket is rapid and easy, but the removal of the window panel is not, the opening becomes less useful in an emergency situation, or in some cases, effectively non-existent. Several members of the Task Force also expressed their concern that the phrase ''rapid and easy'' was too subjective and not quantifiable. They requested that FRA adopt a more measurable performance-based standard instead. Yet, various proposals to do so based on a specific allotment of time to open the window were not adopted, as consensus was not reached on how that time would be determined. Variables such as a person's height, weight, strength, and awareness of emergency exit operation and procedures all could affect the ease of opening a window. For example, a railroad maintenance employee who installs emergency window exits or is otherwise trained on their use should be able to open a window more quickly than many passengers would be able to do. While there was general agreement that a time-performance standard should be based on the time taken by a representative sample of people to open the window, the Task Force was not in a position to specify that sample.

Although unsuccessful at reaching consensus on an actual measure of ''rapid and easy,'' the Task Force was able to agree that promoting ''rapid and easy'' removal of emergency windows is desirable. A combination of interior car fixtures, such as headrests and luggage racks, as well as larger and heavier windows, can create a situation where the most effective and efficient method for removing a window is not immediately apparent. As a step towards promoting rapid and easy removal of the window and to address the situation of particular concern, the Task Force recommended requiring that instructions specifically take into account potential hindrances. The instructions may be in written or pictorial format, since including pictorials depicting the window removal method as part of the instructions can be extremely helpful.

As for rescue access windows, the Task Force generally recommended requiring two windows on each level of a passenger car for rescue access (versus four as is required for emergency exit). The principal reason for requiring only two windows for rescue access is that rescue access windows are the third means of egress in the overall emergency evacuation approach, in which door exits serve as the first (preferred) means of egress and emergency window exits serve as the second. Rescue access windows have this tertiary role because they would be used as a means of last resort when passengers cannot evacuate themselves and require aid from emergency responders. The design of window gaskets also affects how many rescue access windows can be placed in a car, especially on levels where there is limited space for windows. For instance, on certain types of cars, zip-strips installed to facilitate rapid and easy removal of a window can be placed either on the interior or the exterior of the car, but not on both. In this case, if FRA were to require four rescue access windows, then a railroad that has cars with additional emergency window exits (*i.e.*, beyond the minimum of four per main level) would likely just replace some of its emergency window exits with rescue access windows, resulting in fewer emergency window exits, and thereby limiting the more preferred means of egress. For the above reasons, as well as for the cost of retrofitting existing equipment, flexibility for locating rescue access windows in side doors was added for existing equipment.

FRA did not propose, and the final rule does not make, any change to existing requirements for emergency window exits in sleeping compartments or similar private compartments. Yet, in establishing requirements for minimum numbers of rescue access windows in passenger cars, FRA is requiring that each sleeping compartment or similar private compartment in a passenger car have a rescue access window. FRA believes that this new requirement is consistent with current practice.

*B. Emergency Communication Systems—PA and Intercom Systems*

While the Passenger Equipment Safety Standards issued in 1999 by FRA contain requirements for two-way (*i.e.*, crew-to-passenger and passenger-to-crew) emergency communication systems for Tier II passenger equipment, FRA did not require that Tier I passenger cars be equipped with any emergency communication system. Nevertheless, most existing passenger cars are equipped with PA systems, and after discussing the benefits of PA systems in light of the challenge and expense of retrofitting older, existing passenger equipment with limited service life, the Task Force agreed that all passenger cars should, at a minimum, have functioning PA systems. A PA system allows the train crew to keep their passengers informed in an emergency situation and provide instructions to them in a timely manner. In particular, the train crew can provide instructions to passengers not to take an action that could place them in any greater danger, such as instructing them, as appropriate, to remain on the train and not endanger themselves by unnecessarily evacuating the train on their own.

The Task Force also agreed that emergency communication systems in all new passenger cars should include intercom systems that would enable passengers to quickly communicate in emergency situations with the train crew. During the discussions in developing the NPRM concerning whether to require intercom systems on Tier I passenger equipment, some Task Force members expressed concern that if intercom systems were added at each end of a car, were conspicuously marked, and had instructions provided for their use, passengers may use them in non-emergency situations. Amtrak and various commuter railroads that operate cars with intercom systems indicated that they have successfully implemented measures to deter misuse, however, such as by placing the intercom transmission button under a protective covering (which also prevents accidental operation by a passenger leaning against it) and by marking it ''FOR EMERGENCY USE ONLY''.

The emergency communication system requirements in this final rule generally reflect current practice for Tier I passenger equipment operating with PA and intercom systems and existing requirements for Tier II passenger equipment. FRA understands that those Tier I passenger cars that currently do not have PA systems are scheduled to be retired from service before the requirement to have PA systems on existing Tier I passenger equipment becomes effective.

*C. Emergency Roof Access Locations*

Emergency roof access locations (*i.e.*, roof hatches or structural weak points) can be especially useful in emergency situations where passenger cars have rolled onto their sides following certain collision and derailment scenarios. In such situations, doors, which are the preferred means of egress and access under normal circumstances, may be rendered inoperable due to structural damage to the door or the door pocket, or become extremely difficult to use because the car is no longer upright. Moreover, although emergency

responders may be able to enter a car that is on its side via a rescue access window, the removal of an injured occupant through a side window in such circumstances would likewise be difficult or complicated, especially depending upon the condition of the occupant.

FRA's 1999 final rule on Passenger Equipment Safety Standards required emergency roof access locations for Tier II passenger equipment, but not for Tier I passenger equipment. The Task Force examined both these requirements and the APTA PRESS recommended practice RP–C&S–001–98, ''Recommended Practice for Passenger Equipment Roof Emergency Access,'' in recommending that emergency roof access requirements be applied to Tier I passenger equipment. FRA adopted the Task Force's recommendation and, in general, is requiring that each new passenger car (both Tier I and Tier II) have a minimum of two emergency roof access locations. Existing Tier I passenger cars are not subject to the requirements, while existing Tier II passenger cars continue to be subject to existing requirements. For further discussion and explanation of the requirements, including the treatment of Tier II power cars, please see the Section-by-Section Analysis of this preamble at Section V.

*D. Inspection, Testing, and Maintenance*

This final rule amends §§ 238.17, 238.303, and 238.305 (which contain standards for movement of passenger equipment with other than power brake defects, for inspection of passenger equipment, and for repair of passenger equipment) by adding requirements for the inspection, testing, maintenance and repair of emergency communication systems, emergency roof access points, and rescue access markings. To allow railroads sufficient time to repair the equipment with minimal disruption to normal operations, however, flexibility is provided for operating equipment in passenger service with certain noncompliant conditions. In affording this flexibility, the final rule requires the railroad to adhere to specified procedures for the safe operation of the equipment.

## V. Section-by-Section Analysis

This section-by-section analysis explains the provisions of the final rule and any changes made from the 2006 NPRM. Of course, a number of the issues and provisions involving this rule have been discussed and addressed in detail in the preceding discussions. Accordingly, the preceding discussions should be considered in conjunction with those below and will be referenced as appropriate.

### Amendments to 49 CFR Part 223, Safety Glazing Standards—Locomotives, Passenger Cars and Cabooses

*Subpart A—General*

Section 223.5 Definitions

This section, which contains a set of definitions of terms used in part 223, has been modified to clarify the definition of one term and to remove the definitions of two terms that are no longer used in the part because of the removal of § 223.9(d)(2).

The definition of ''emergency window'' has been revised in this section, as well as in § 238.5 of this chapter, to clarify that the purpose of an emergency window is egress, and thus an emergency window needs to be removable only from the inside of a passenger car. Accordingly, FRA has revised the definition of ''emergency window'' to mean the segment of a side-facing glazing panel that has been designed to permit rapid and easy removal from inside a passenger car in an emergency situation. FRA has also removed the definitions ''emergency responder'' and ''passenger train service'' in accordance with the removal of § 223.9(d)(2), the only section in part 223 that referenced these terms. The definition ''emergency responder'' has been moved to part 238 of this chapter.

*Subpart B—Specific Requirements*

Section 223.9 Requirements for New or Rebuilt Equipment

In the discussion of § 223.5, FRA has noted that the definition of ''emergency window'' has been amended to clarify that the purpose of the windows is egress, and thus such a window would need to be removable only from the inside of a passenger car. Section 223.9(c) required ''at least four emergency opening windows.'' As the term ''emergency opening window'' was not specifically defined—but had been understood to mean ''emergency window''—FRA has modified the rule text in § 223.9(c) to require ''at least four emergency windows'' and restructured the section in order to provide more clarity.

FRA has removed § 223.9(d) and merged the requirements previously contained therein into §§ 238.113 and 238.114 of part 238. The requirements in § 223.9(d) had been added by FRA's May 4, 1998 final rule on Passenger Train Emergency Preparedness. *See* 63 FR 24629, 24643. The Passenger Train Emergency Preparedness final rule required the marking of both emergency window exits and windows intended for rescue access, and also required that instructions be provided for their use. However, the requirements applied only to ''each railroad providing passenger train service,'' a class of train service purposefully narrower than the general application section in part 223. *See* § 223.9. Because FRA has addressed marking and instruction requirements for such windows in this train service in part 238, and because the requirements of § 223.9(d) did not apply to other equipment covered by part 223, they have been removed from part 223, along with the corresponding definition of ''emergency responder'' and ''passenger train service.'' Further, removal of § 223.9(d) avoids creating any confusion due to duplication of the marking and instruction requirements in two different parts of the CFR, especially since the marking requirements in part 238 that have been adopted by FRA vary somewhat from the ones that were contained in § 223.9(d). Nevertheless, § 223.8 will continue to alert the reader to additional requirements for emergency window exits for ''passenger equipment'' in part 238, as defined in that part.

However, because the ''application'' section of part 223 is broader than that of part 238, FRA has been mindful not to alter the application of those part 223 requirements unaffected by the May 4, 1998 amendments. Part 238 does not apply to ''tourist, scenic, historic, or excursion operations, whether on or off the general railroad system of transportation,'' *see* § 238.3(c)(3); whereas, part 223 does not apply to ''locomotives, passenger cars and cabooses that are historical or antiquated equipment'' and are also ''used only for excursion, educational, recreational purposes or private transportation purposes,'' *see* § 223.3(b)(3). As a result of this, for example, tourist equipment that is covered by part 223 because the equipment is not historical or antiquated and is required to be equipped with certified glazing in all windows pursuant to § 223.9(c) or 223.15(c), is still required to have four emergency windows (emergency window exits), despite its exclusion from the part 238 requirements.

*Appendix B to Part 223—Schedule of Civil Penalties*

This appendix contains a schedule of civil penalties to be used in connection with this part. Because such penalty schedules are statements of agency policy, notice and comment are not required prior to their issuance. *See* 5 U.S.C. 553(b)(3)(A). Nevertheless, FRA

invited comment on the penalty schedule, but no comment was received.

FRA has amended the penalty schedule. As discussed above, FRA has merged the requirements of § 223.9(d) into §§ 238.113 and 238.114. Accordingly, FRA has modified the schedule of civil penalties in appendix B to part 223 by removing the entries for paragraphs (d)(1)(i), (d)(1)(ii), (d)(2)(i), and (d)(2)(ii) of § 223.9 and the associated penalties. FRA has also revised footnote 1 to clarify the use of penalty codes in the penalty schedule.

**Amendments to 49 CFR Part 238, Passenger Equipment Safety Standards**

*Subpart A—General*

Section 238.5 Definitions

This section, which contains a set of definitions of terms used in part 238, has been modified to include definitions of terms used in modifications to part 238.

FRA has added the definition of ''dual-function window'' to mean a window that is intended to serve as both an emergency window exit and a rescue access window. This term generally refers to a window that has a zip-strip, which is a strip in a window gasket that can be pulled from end to end to unlock the gasket and thus release the glazing, on both faces, so that it can be opened from both the inside of the car and the outside. (This definition also covers other methods of opening the same window from both the inside of the car and the outside.) The term has been added because it is referenced in § 238.114(a)(5) as an exception to the requirements on the location of rescue access windows set forth in § 238.114. Dual-function windows installed to meet the minimum requirements contained in § 238.113 are not required to meet the § 238.114 rescue access window location requirements, in order to recognize that a railroad that installs four compliant emergency window exits that are the dual-function type has also installed twice the number of rescue access windows required.

FRA has revised the definition of ''emergency window'' to clarify that the purpose of an emergency window is egress, and thus such a window needs to be removable only from the inside of a passenger car. Accordingly, FRA has amended the definition to mean the segment of a side-facing glazing panel that has been designed to permit rapid and easy removal from inside a passenger car in an emergency situation. FRA has also revised the definition of this term in § 223.5 for consistency and clarity.

FRA has added the definition of ''intercom'' to mean a device through which voice communication can be transmitted and received. A transmission unit normally has a button, which has to be pressed to begin transmission or notify the crew on the receiving end of the intention to communicate using the system. An intercom may be a telephone apparatus. FRA has also added the definition of ''intercom system'' (or ''intercommunication system'') to mean a two-way, voice communication system. This system allows a passenger to communicate with a crewmember, typically by pressing a button, or lifting a telephone handset, or both.

FRA has added the definition of ''intermediate level'' to mean a level of a multi-level passenger car that is used for passenger seating and is normally located between two main levels. An intermediate level normally contains two, separate seating areas, one at each end of the car, and is normally connected to each main level by stairs. The term ''intermediate level'' is intended to distinguish a level used for passenger seating of a multi-level passenger car from a ''main level'' of such a car, as FRA has applied different requirements to the different passenger seating levels. Please see the discussion of ''main level,'' below.

Previously, the regulatory text of part 238 did not define the term ''main level,'' as used in § 238.113. However, in the preamble to the April 23, 2002 final rule, FRA explained that the term ''main level'' was intended to exclude a level of a car that is ''principally used for passage between the door exits and passenger seating areas, or between seating areas,'' and noted that such an area is not ''principally used for seating'' and includes a stairwell landing. *See* 67 FR 19973. This distinction raised some concerns with respect to intermediate levels because their designation as main levels would hinge upon an interpretation of ''principally used'' for passenger seating. Some Task Force members believed that these levels were principally used for passenger seating because passengers who are seated there are spending more time on that level than the passengers who simply use that level to reach the upper level (or lower level). Others believed that the intermediate level was principally used for passage between levels because there was a greater volume of passengers passing through that level to reach the upper level (or passing through to reach the lower level, or both) than there were passengers seated on that level. In light of the concerns raised, FRA has defined ''intermediate level,'' as discussed above, and has also defined ''main level'' as a level of a passenger car that contains a passenger compartment whose length is equal to or greater than half the length of the car. This definition establishes a more direct relationship between the number of occupants on a level of a car and the number of emergency window exits required on that level. The longer a level is, the more seats and exterior side windows it is able to accommodate. Since passenger cars are normally about 85 to 90 feet in length, a main level in such a car would be a level that contains a passenger compartment whose length is approximately 42.5 feet or more. Accordingly, there should be sufficient space for the required number of emergency window exits on a main level of a passenger car, whether or not there is a bathroom, kitchen, or equipment closet located on the same level.

FRA has added the definition of ''PA system'' or ''public address system'' to mean a one-way, voice communication system. Such a system is used by train crew members to make announcements to passengers in both normal and emergency situations. Crew members may use the PA system to make routine station announcements as well as to communicate information regarding unusual occurrences, such as unexpected delays and emergencies. If a person requires immediate medical attention, the crew may also use the PA system to request assistance from someone onboard with medical training. Some PA systems have speakers located on the exterior of cars that are used to make announcements to persons in the vicinity of the train (*e.g.*, passengers on a station platform).

FRA has added the definition of ''passenger compartment'' to mean an area of a passenger car that consists of a seating area and any vestibule that is connected to the seating area by an open passageway. If a door separates the seating area from the vestibule, the vestibule is not part of the passenger compartment. *See* Figure 1c to subpart B. This definition was necessary to solidify the concept that passengers should not have to go through an interior door, which could get jammed, or to another level in order to reach an emergency window exit, and likewise, emergency responders should be able to directly access passengers in need of aid in each such compartment.

Consistent with the amendments to part 223, discussed above, FRA has defined ''rescue access window'' as a side-facing exterior window intended for use by emergency responders to gain

access to passengers in an emergency situation. In some passenger cars, all windows may be capable of serving as both emergency window exits and rescue access windows. However, a railroad may choose not to designate one or more of these windows for rescue access for various reasons, including the presence of a third-rail shoe that could pose an electrocution hazard, or a high seatback next to the window that may pose a potential hindrance to window removal for windows that are designed to open by being pushed into the car.

Some rescue access windows are designed with a zip-strip to release the window panel from its frame. In some cars, side-facing glazing systems are designed so that there is a zip-strip on only one side of the window panel. It is common for railroads to install such systems with a zip-strip on the exterior of the car for rescue access use, and also have one in the interior of the car for emergency egress use. However, to the extent that there may be only one zip-strip for a single glazing system, the railroad must decide whether to place the zip-strip on the exterior of the car for use in rescue access, or in the interior of the car for use in emergency egress.

Although use of zip-strips in rescue access windows is common, FRA makes clear that they are not required. The adopted definition is a performance standard, and a rescue access window may be opened by other means, such as by shattering the window (if glass) or by popping the window out by applying force at one corner.

Throughout the discussion of rescue access windows, Task Force members repeatedly emphasized, as the definition reflects, that these windows are intended for use by emergency responders to gain access to passengers in an emergency situation. In the process of reviewing the definitions in parts 223, 238, and 239 in composing the NPRM and this final rule, FRA noted that the term ''emergency responder'' was defined in parts 223 and 239, but not in part 238. As the adopted part 238 definition of ''rescue access window'' includes the term ''emergency responder,'' FRA believed it was appropriate to add the definition of ''emergency responder'' to part 238. The term has been defined to mean a member of a police or fire department, or other organization involved with public safety charged with providing or coordinating emergency services, who responds to a passenger train emergency.

FRA has added the definition of ''retroreflective material'' to mean a material that is capable of reflecting light rays back to the light source and that conforms to the specifications for Type I Sheeting, as specified in ASTM International's (ASTM) Standard D 4956–07, ''Standard Specification for Retroreflective Sheeting for Traffic Control.'' ASTM International defines Type I Sheeting as ''medium-intensity retroreflective sheeting referred to as 'engineering grade' and typically enclosed lens glass-bead sheeting,'' and FRA has incorporated the ASTM definition by reference. This newly added definition is consistent with the definition and requirements for retroreflective material markings for doors, windows, and roof locations intended for rescue access contained in APTA Standard SS–PS–002–98, Rev. 3, ''Standard for Emergency Signage for Egress/Access of Passenger Rail Equipment.'' (As discussed further in the Section-by-Section Analysis, Revision 3 of this Standard was authorized by APTA on October 7, 2007.) FRA notes that this APTA standard also requires that the retroreflective material be tested according to ASTM's Standard E 810–03, ''Standard Test Method for Coefficient of Retroreflective Sheeting Utilizing the Coplanar Geometry.''

FRA has added the definition of ''seating area'' to mean an area of a passenger car that normally contains passenger seating. An area with no actual seats but with anchors for securing wheelchairs is considered a seating area.

FRA notes that the term ''vestibule'' is defined in part 238 to mean an area of a passenger car that normally does not contain seating and is used in passing from the seating area to the side exit doors. Although FRA has not revised the definition of ''vestibule,'' FRA makes clear that for purposes of part 238, a vestibule may be located anywhere along a car. The location of a vestibule is not restricted to the far ends of a car but may be elsewhere, such as in the middle of the car. As a result, what some in the passenger rail industry commonly refer to as an entranceway, by virtue of where it is located in a car, it is considered a vestibule for purposes of this part.

Section 238.17 Movement of Passenger Equipment With Other Than Power Brake Defects

This section contains the requirements related to the movement of passenger equipment with a condition not in compliance with part 238, excluding a power brake defect, without civil penalty liability under this part. FRA has modified paragraphs (b) and (c) of this section to include a reference to the specific provisions added to the exterior calendar day mechanical inspection in § 238.303(e)(18) regarding rescue-access-related markings, signage, and instructions. Section 238.303(e)(18) requires that all rescue-access-related exterior markings, signage, and instructions required by § 238.114 (rescue access windows) and § 239.107(a)(2) (door exits intended for emergency access) be in place and, as applicable, conspicuous, and/or legible, and that certain conditions be met for continued use of the cars with defective markings, signage, or instructions. As these provisions contain specific requirements related to the continued use in passenger service of passenger cars found with defective rescue access signs, markings, or instructions, recognition of these specific limitations is included in both paragraphs (b) and (c) of this section. The requirements in § 238.303(e)(18) and the conditions for continued use of passenger equipment with non-complying conditions are discussed in detail, below.

In the NPRM, FRA noted that it was considering moving the emergency exit marking requirements contained in § 239.107(a) into part 238, and FRA invited comment on whether FRA should do so in the final rule. FRA explained that since § 239.107(a) contains requirements for door exit marking, signage, and operating instructions, the requirements of that section may more logically be situated in the very sections containing requirements for door exits in part 238, namely, §§ 238.235 and 238.439. However, no comment was received on this matter, and the Task Force advised that it is not necessary to move these requirements into part 238 at this time. The Task Force noted that it would be advisable to consider incorporating by reference the APTA standard containing more specific requirements for emergency exit markings in a future rulemaking, instead of making non-substantive changes concerning where these requirements are currently stated in the CFR. FRA agreed with the Task Force's recommendation, and has left the rule unchanged in this regard at this time.

*Subpart B—Safety Planning and General Requirements*

Section 238.113 Emergency Window Exits

Prior to this final rule, this section contained requirements for emergency window exits in single-level passenger cars and in main levels of multi-level passenger cars only. Again, emergency window exits are intended to

supplement door exits, which are normally the preferred means of egress in an emergency situation. Emergency windows provide an alternative means of emergency egress should doors be rendered inoperable or inaccessible. They also provide an additional means of egress in life-threatening situations requiring very rapid exit, such as a fire on board or submergence of the car in a body of water.

To ensure that emergency window exit requirements apply to every level with passenger seating, FRA has revised this section expressly to include emergency window exit requirements for any level with passenger seating in a multi-level passenger car. FRA has also revised this section to require that emergency window exit operating instructions specifically address the presence of interior fixtures that may hinder the removal of the window panel, to facilitate its rapid and easy removal.

Paragraph (a). Paragraph (a), which applies to both new and existing passenger cars, has been modified to specify requirements for the number and location of emergency window exits on any level with passenger seating in a passenger car. The requirements for single-level passenger cars in paragraph (a)(1), and for main levels of multi-level passenger cars in paragraph (a)(2), have largely remained unchanged from the May 12, 1999, final rule in which they were adopted (64 FR 25540, 25673). Under the 1999 final rule, single-level passenger cars were required to have a minimum of four emergency window exits, located ''either in a staggered configuration where practical or with one located in each end of each side of each level.'' FRA has slightly modified this language by replacing the word ''end'' with ''end (half)'' to clarify that the term ''end'' does not refer to the extreme forward and rear ends of a car, but merely the front and rear halves of the car. *See* Figure 1 to subpart B. Additionally, the text has been reorganized to emphasize that a window is required in each end (half) of each side of the car and that, if practical, the windows are also to be in a staggered configuration. This clarification removes any ambiguity in the former rule text that wrongly suggested that one could choose to simply stagger the location of the windows without regard to having one window in each side of each end.

FRA notes that Caltrans submitted a comment on the requirement that the emergency window exits be in a staggered configuration, where practical. In its comments, Caltrans stated that its *California* cars, which are bi-level, have emergency window exits that are not in a staggered configuration, but rather ''located symmetrically on each side of the vehicle''—*i.e.*, on both sides directly across from each other. Caltrans also stated that the cars have eight emergency window exits in the upper level, twice as many emergency window exits than it believed were required under the rule. Nevertheless, Caltrans expressed concern that the emergency window exit configuration was not compliant with the requirement for staggering their location where practical, and requested that the rule make clear that for cars where the number of emergency window exits exceeds the minimum required for each side and each half of the car, the staggering of the emergency window exit locations is not required.

Caltrans also stated in its comments that its *Surfliner* cars, which are also bi-level, have 23 emergency window exits on the upper level of each and at least four on the lower level of each car. In effect, every window frame in such cars contains an emergency window exit. As a result, Caltrans expressed concern that it would possibly have to eliminate emergency window exits in order to located them in a staggered configuration.

FRA referred these comments to the Task Force for discussion and its recommendation. FRA expressed its views on Caltrans' comments and the Task Force agreed that Caltrans' cars were in compliance with the emergency window exit location requirements and that no change in the rule text is necessary. The Task Force also agreed with FRA's recommendation that, instead of modifying the rule, the preamble to this final rule clarify the intent and application of the emergency window exit location requirements.

FRA emphasizes that a railroad is not required to stagger the location of emergency window exits when it is not practical to do so. Further, FRA makes clear that the requirement to stagger their location is principally a concern in a situation where only the minimum number of emergency window exits is present so as to maximize the rate of egress. That is, train occupants would not otherwise have to crowd the same two areas to escape out of a window where the minimum number of emergency window exits are paired across from one another, *i.e.*, paired symmetrically with respect to the longitudinal centerline of the car. Yet, where more than the minimum number of required emergency window exits are present, train occupants have more window exits to escape through, and there is less concern that any one location would be crowded. Having examined Caltrans' *California* and *Surfliner* cars, and considered the number of emergency window exits present in each car, FRA believes that the cars are in compliance with the location requirements for emergency window exits.

FRA does not believe it necessary to modify the final rule, however, especially since factors other than the number of emergency window exits need to be taken into account in deciding whether it is practical to stagger their location. Instead, FRA is providing the following examples of instances where it may not be practical to stagger the location of emergency window exits. For example, if a car has a symmetrical seating arrangement that includes face-to-face seating with tables or workstations in between, a railroad may decide to configure emergency window exits symmetrically with respect to the longitudinal centerline of the car. Face-to-face seating arrangements usually provide sufficient clear space for locating emergency window exits such that they are free of obstruction or potential hindrance by high seatbacks and thus may be more rapid and easy to operate in an emergency situation. Railroads may also decide not to stagger emergency window exits to avoid creating potentially hazardous situations such as would exist if an emergency window exit were located immediately above a third-rail shoe that could pose an electrocution hazard. In other instances, the presence of a rescue access window that does not also serve as an emergency window exit, the size of a window, or a combination of these, could make staggering the location of emergency window exits not practical.

To illustrate the requirements of paragraph (a)(2), FRA has added Figure 1, as referenced above. FRA had invited comment in the NPRM on whether this and other figures proposed in the NPRM for inclusion in part 238 would be helpful in understanding the requirements of this part, and, if so, whether any additional figures should be included. FRA also noted that the proposed figures, which were not drawn to scale, represented possible ways of complying with the proposed requirements and should not be construed as depicting the only way to comply. While no written comments were received on this issue, both the Task Force and the Working Group recommended that FRA retain these figures in the final rule. FRA has decided to include the figures in the final rule as proposed.

Paragraph (a)(3) contains the new requirements for emergency window exits on non-main levels with seating areas of multi-level passenger cars, including intermediate (or mezzanine) seating levels. The general intent of the paragraph is to have at least one emergency window exit that is accessible to passengers in each side of a passenger seating area without requiring the passengers to move to another level of the car or pass through a door. This will help ensure that, if a car rolls onto its side or if there is a hazard on one side of the train, an emergency window exit on the opposite side will be available to passengers and crew members for emergency egress. Nevertheless, as further discussed below, a constraint for intermediate levels of both new and existing multi-level passenger car designs is limited space due to the presence of bathrooms, equipment closets, and side door exits. Accordingly, the requirements for the number and location of emergency window exits in paragraph (a)(3) provide flexibility for, and are consistent with, existing passenger car designs.

FRA notes that in light of adding the new definition of ''main level,'' some passenger cars will no longer have main levels. Such cars will thus be subject to the requirements for other levels with seating areas contained in paragraph (a)(3). For instance, none of the levels in a gallery-style car (a multi-level passenger car with a full-height, enclosed vestibule in the center) meet this definition of a ''main level.'' Yet, each of the four, separate seating areas in such a car is subject to the emergency window exit number and location requirements adopted in paragraph (a)(3). Further, the requirements of paragraph (a)(3) are consistent with the number and location of emergency windows on existing gallery-style passenger cars, will not impact current operations, and will not diminish the effect of FRA's existing requirements.

Paragraph (a)(3)(i) of the final rule, which applies to both new and existing passenger cars on or after August 1, 2009, generally requires that non-main levels that are used for passenger seating have at least two emergency window exits that are accessible to passengers in each seating area without requiring the passengers to move to another level of the car or pass through an interior door. This provision is intended to address situations in which stairways could become structurally deformed and interior doors could be rendered inoperable as a result of a collision, derailment, or other accident, obstructing access to an emergency window exit or a side door exit on another level or in a vestibule area that is separated from the seating area by an interior door. Similarly, the provision is intended to address situations in which a passenger car rolls onto its side as a result of a collision, derailment, or other accident, by providing that at least one of these emergency window exits be required in each side of the passenger car, except as provided below. *See* Figures 2, 2a, and 2b to subpart B.

This provision also permits an emergency window exit to be located within an exterior side door in the passenger compartment of a non-main level, if it is not ''practical'' to place the window exit in the side of the seating area. It should be noted that, by definition, a side door is not considered to be located within the ''passenger compartment'' if an interior door separates the seating area from the area where the side door is located. The provision requires that there be an open passageway between the seating area and the vestibule, in such a circumstance. Use of the word ''practical'' allows railroads and car builders some discretion regarding the location of an emergency window exit in a non-main level of a car. For instance, this provision could be used to address situations where a window in a door in the same passenger compartment may be better suited for emergency egress than one in the seating area. In some cars, removal of the windows in the seating area may be hindered by seatbacks or other fixtures, while windows in the exterior side doors could potentially be more easily and rapidly removed. Since there would still be two accessible side windows in a passenger compartment, one on each side, there is no limitation on the number of seats that may be in the compartment. Moreover, the door itself is a means of emergency egress that, if operable, would allow more rapid and safe egress than exiting through a window. Nevertheless, because having two emergency exits at the very same location could result in both exits being rendered inoperable (as by car crush) or inaccessible (as by fire), FRA decided not to allow the unrestricted placement of emergency window exits in side doors. FRA makes clear that, all things being equal, emergency window exits should be placed in a location separate from side door exits. *See* Figure 2b to subpart B; compare to Figure 2a to subpart B.

In determining the appropriate applicability date for the requirement to have emergency window exits in non-main levels of multi-level passenger cars, it was noted that, while some passenger cars already have windows in each side of an intermediate-level seating area, these windows are not necessarily emergency window exits. Consequently, some time would be needed to change out the existing windows with emergency window exits or otherwise retrofit the windows with pull-handles and make any other modification necessary so that the windows would meet the requirements for emergency window exits. The final rule takes this concern into account, and otherwise affords railroads sufficient time to come into compliance, regardless of the state of the existing windows, by not making the requirement applicable until 18 months after publication of the final rule.

Paragraph (a)(3)(ii) contains an exception for non-main levels of both new and existing multi-level passenger cars. It requires only one emergency window exit in a seating area in a passenger compartment with no more than four seats, if it would not be practical to place an emergency window exit in a side of the passenger compartment due to the need to provide accessible accommodations under the ADA and a suitable, alternate arrangement for emergency egress is provided. This exception would address concerns involving multi-level passenger cars serving passenger stations with high-platforms, such as on the Northeast Corridor. Because all passengers enter these cars on the intermediate level, and disabled passengers are not able to access accommodations on another level of the cars, any accommodations provided to passengers are located on the intermediate level. The final rule recognizes this fact, and the exception applies to both existing and new passenger cars. However, the exception is limited to situations that arise from the need to provide accessible accommodations under the ADA, as well as limited to those seating areas in passenger compartments where there are no more than four seats and where a suitable alternate arrangement for egress is provided. Use of the word ''practical'' in paragraph (a)(3)(ii) is intended to extend flexibility to car builders to locate an electrical locker or other equipment closet in a side of an intermediate level at one end of a passenger car without being required to place an emergency window exit in the same side at that location, provided the placement of the locker or closet is related to placement of ADA-accessible accommodations in the intermediate level at the other end of the car. The limitation concerning the maximum

number of seats in the passenger compartment is consistent with the maximum number of seats in existing designs for cars that are being manufactured with emergency window exits in only one side of each passenger compartment in an intermediate level.

In requiring that a suitable, alternate arrangement for emergency egress be provided, such an arrangement must not require the use of a tool or implement to operate, and must be comparable to an emergency window exit in terms of being rapid and easy to use. As part of the Task Force's discussion during the development of the NPRM, Kawasaki presented a car design with a seating area separated from a vestibule by an interior door and an alternate arrangement for emergency egress to address having a distinct emergency window exit on only one side of the seating area. (A copy of this design has been placed in the docket for this rulemaking.) The interior door is designed with a removable window panel (with pull-handles on both sides) to allow passengers access to the vestibule in the event the door itself were inoperable. Further, once a passenger accesses the vestibule, there are two exterior side doors in the vestibule, one on each side, that each contain an emergency window exit. As a result, in this design, a means of exiting the car from the side that lacks the distinct emergency window exit is available to passengers.

A combination of several factors makes this type of arrangement depicted by Kawasaki a suitable, alternate arrangement for emergency egress. First, the alternate emergency exit location provides a measure of redundancy, *i.e.*, a safety factor, in that there are an exterior side door and an emergency window exit in the same door. The door, if operable, allows passengers and crewmembers to exit more expeditiously than through a window. In the event that this door is rendered inoperable, a window meeting the minimum dimension requirements in paragraph (c) is available. To the extent that both the door and its window are inaccessible or inoperable, and the side door exit on the opposite side of the vestibule is also inaccessible or inoperable, the exterior side door exits in the adjacent car's vestibule are then next in sequence for use, since this car design has no end-frame doors separating adjoining cars. In fact, should the end of the car become uncoupled from the adjacent car, the vestibule would be open at the end, allowing passengers direct access to the outside. Regarding the removable panel in the interior door leading to the vestibule, it should be noted that it is designed to be polycarbonate, rather than glass, making it significantly lighter, and thus easier to remove than a glass panel. Further, the opening created by removing the panel is large enough for a person to pass through it relatively quickly.

Paragraph (a)(3)(iii) requires passenger cars that were both ordered prior to April 1, 2009 and placed in service prior to April 1, 2011 to have a minimum of only one emergency window exit in a non-main level seating area in a passenger compartment with no more than eight seats, if it is not ''practicable'' to place a window exit in a side of the passenger compartment (due to the presence of a structure such as a bathroom, electrical locker, or kitchen). This exception is broader than the one in paragraph (a)(3)(ii), as it applies to non-main levels with more seats and is not dependent on providing accessible accommodations under the ADA. However, it does not apply to new cars. New car designs must take into consideration the need to provide an emergency window exit in each side of a passenger compartment.

Use of the word ''practicable'' limits railroad discretion so that a car subject to this paragraph is required to have an emergency window exit in a side of a seating area, if a window suitable for such use is already located there. Nevertheless, FRA notes that a railroad is under no obligation to install a window in a side of a passenger compartment for purposes of providing an emergency window exit under this paragraph, if an emergency window exit is located in either (i) the other side of the same compartment or (ii) an exterior side door located in the same side of the compartment. Cutting through a side panel in an existing passenger car to install an emergency window exit is not required.

Requirements for cars with sleeping compartments or similar private compartments have been clarified and moved from former paragraph (a)(2) to new paragraph (a)(4). Each level of a passenger car with a sleeping compartment or a similar private compartment intended to be occupied by a passenger or train crewmember continues to be required to have at least one emergency window exit in each such compartment. A private seating area (such as found on certain European trains or on some antiquated American trains) is a private compartment. FRA notes that, in a passenger car with only sleeping compartments, if all the sleeping compartment doors are locked, passengers in a compartment without an egress window would not be able to get into another compartment to use an emergency window exit. The rule clarifies that, for purposes of this paragraph, a kitchen, locomotive cab, or bathroom—whether public or private—is not considered a ''private compartment,'' however. In particular, a bathroom is not considered a ''private compartment'' for purposes of this requirement because a bathroom should normally be located either in a sleeping compartment or in a passenger compartment, both of which are subject to emergency window exit requirements. As a result, a passenger should have access to an emergency window exit upon exiting a bathroom.

Paragraph (b). As part of the revision and reorganization of this section, paragraph (b) contains the same requirements for ease of operability of emergency window exits that were stated in former paragraph (a)(3) of the regulation. The only modification is that the applicability date of November 8, 1999, which was stated in the introductory text of paragraph (a), has been added directly to this paragraph (b). FRA notes that the Task Force considered alternatives to the existing standard for the ease of operating emergency window exits—one that would be capable of more objective quantification. One such alternative that was considered involved specifying a maximum pull-force for removing window gaskets and glazing, but the Task Force found it difficult to specify a uniform standard that would account for varying operating environments and weather conditions. Further discussion relating to the requirements of paragraph (b) is found below in the paragraph discussing the requirements for marking emergency window exits.

Paragraph (c). Consistent with the reorganization and revision of this section, FRA has moved existing requirements for the dimensions of emergency window exits from former paragraph (b) to paragraph (c). The applicability date of the dimension requirements is unchanged from former paragraph (b); thus, the requirements continue to apply to each passenger car ordered on or after September 8, 2000, or first placed in service on or after September 9, 2002. FRA has slightly modified the requirements to allow an emergency window exit with an unobstructed opening of at least 24 inches horizontally by 26 inches vertically to be located within an exterior side door, in accordance with the requirements of paragraph (a)(3)(i) of this section, as discussed above. FRA makes clear that, for purposes of determining compliance with the emergency window exit dimension requirements, the dimensions of the

unobstructed opening are measured after the emergency window exit has been opened. For example, the transparent area of the window for viewing use by passengers or train crew members may be several inches smaller than the opening created once the window is removed, and that would be acceptable, as long as the opening satisfies the dimension requirements.

The 1999 Passenger Equipment Safety Standards final rule required that an emergency window exit in a passenger car ordered on or after September 8, 2000, or placed in service for the first time on or after September 9, 2002, have an unobstructed opening with minimum dimensions of 26 inches horizontally by 24 inches vertically. Prior to the promulgation of this requirement, FRA had not specified the dimensions of emergency window exits. As a result, in the August 2006 NPRM, FRA stated that a window exit in such a passenger car that does not create an unobstructed opening meeting these minimum dimension requirements may *not* be considered an ''emergency window exit'' for purposes of this section and may not be marked as an ''emergency window exit.'' See 71 FR 50288. Yet, FRA noted that it did not believe it necessary to modify or remove such a window exit, provided the passenger car containing the window exit is otherwise in compliance with all applicable emergency window exit requirements. *Id.*

For example, FRA is aware of window exits that are not capable of creating openings of the required dimensions because of the presence of seatbacks that do not manually recline and may, therefore, obstruct passage through the window of a stretcher or an emergency responder with a self-contained breathing apparatus but not necessarily a passenger or crewmember. Certain emergency window exit designations appear to have been made independently of interior seat configurations, and this has resulted in the expense of relocating emergency window exit locations post-delivery. However, FRA does not intend to discourage a railroad from retaining these additional window exits in its passenger cars, even if they would not create openings of the required dimensions, out of the agency's concern for circumstances such as those present in the derailment of an Amtrak train near Mobile, AL, in September 1993. There, after a barge had struck and displaced a railroad bridge, an Amtrak train traversing the bridge derailed and fell into a bayou, drowning 42 passengers and two crewmembers, and killing three other crewmembers located in the lead locomotive. In what has been the Nation's deadliest passenger train accident in over 50 years, train occupants needed to evacuate as quickly as possible from cars filling with water, potentially making the number of window exits more critical than their precise dimensions. (FRA is not suggesting that the cars lacked a sufficient number of exits; nor is FRA suggesting that their exits' dimensions were too small. FRA is citing this incident to show that circumstances can exist where there may be extreme urgency to exit a passenger car.)

FRA invited comment on the issue of window exits in passenger cars ordered on or after September 8, 2000, or placed in service for the first time on or after September 9, 2002, that have window exits not meeting the minimum dimension requirements. FRA specifically invited comment on whether these window exits should be removed—*i.e.*, replaced with conventional windows—and, to the extent that they should not be removed, whether any instructional marking on these windows should be permitted. Since these windows could be used for emergency egress if they are not removed, FRA also invited comment as to whether they should have to be tested periodically to ensure that they operate properly. FRA noted that railroads are currently required to test emergency window exits no less frequently than every 180 days using commonly accepted sampling techniques to determine how many windows to test. See § 239.107 of this chapter. In general, these sampling techniques require that the greater the percentage of window exits that a railroad finds defective in a sample, the greater the percentage of windows that the railroad has to test in total (*i.e.*, the number of windows that need to be tested is adjusted upward when defects are found). Specifically, sampling should be conducted to meet a 95-percent confidence level that no defective units remain and be in accord with either Military Standard MIL–STD–105(E), ''Sampling for Attributes,'' or American National Standards Institute (ANSI)/ASQC Z1.4–1993, ''Sampling Procedures for Inspections by Attributes.'' (FRA notes that MIL–STD–105(E) was formally cancelled by the U.S. Department of Defense on February 27, 1995. The cancellation notice stated that future acquisitions should refer to acceptable non-Government standard sampling procedures and tables for inspection by attributes, such as ANSI/ASQZ Z1.4–1993.)

FRA also noted that, although testing these window exits would appear desirable, a testing requirement may discourage railroads from retaining these window exits at all.

The Task Force considered these issues and, for passenger cars ordered on or after September 8, 2000, or placed in service for the first time on or after September 9, 2002, recommended allowing railroads to designate as ''additional'' emergency window exits those windows that provide an unobstructed opening that is smaller than 24 inches vertically by 26 inches horizontally but that would still be suitable for use in an emergency. The Task Force further recommended that such ''additional'' emergency window exits be marked for emergency exit, have instructions provided for their use, and be tested in the same manner as the emergency window exits designated for purposes of complying with the minimum number requirements of this section 238.113.

FRA agrees with the recommendation of the Task Force and has revised paragraph (c) accordingly. There are now two exceptions to the requirements concerning dimensions, and they are contained in newly added paragraphs (c)(1) and (c)(2). The first exception, which was originally proposed in the NPRM as part of the text of paragraph (c), is that an emergency window exit located within an exterior side door in accordance with paragraph (a)(3)(i) of this section, may have an unobstructed opening with minimum dimensions of 24 inches horizontally by 26 inches vertically, rather than 26 inches by 24 inches. The second exception addresses the dimensions of ''additional'' emergency window exits. It provides that any additional emergency window exit, beyond the minimum number required by paragraph (a) of this section, that has been designated for emergency use by the railroad need not comply with the minimum dimension requirements in paragraph (c) of this section, but must otherwise comply with all applicable emergency window exit requirements. Under this new section, there is no obligation for a railroad to designate any such ''additional'' emergency window exits not meeting the minimum dimension requirements, in the same way that there is no obligation for a railroad to have more than the minimum number of emergency window exits that comply with the dimension requirements. Nevertheless, when a railroad does seek to have in its passenger cars more than the minimum number of emergency window exits, FRA encourages the railroad to follow the dimension requirements for those additional

window exits as well, all things being equal.

In those circumstances where any additional emergency window exit cannot meet the dimension requirements, namely in the case of an existing passenger car where the seating configuration causes a seatback to obstruct part of the opening, but the window exit is still considered suitable for use in an emergency to exit the car, the railroad may designate it as an ''additional'' emergency window exit. FRA notes that while a railroad will most often designate an additional emergency window exit by marking it for use, designation could also occur by design (*i.e.*, if a pull handle is present) or by written or verbal notice to passengers as part of the railroad's passenger safety awareness program.

FRA chose not to adopt a similar exception to the dimension requirements for rescue access windows because the additional rescue access windows are not likely to be as useful in an emergency situation requiring immediate evacuation (*e.g.*, to escape water, smoke or fire) as additional emergency window exits. This also helps to ensure that there will be no confusion as to whether or not the rescue access window is of the appropriate size to accommodate an emergency responder equipped with breathing equipment and a standard-sized stretcher. To the extent that emergency responders use emergency window exits to evacuate passengers (*e.g.*, if a responder chose to enter through an already-opened emergency window exit rather than going through the process of pulling open a rescue access window), FRA expects that the training made available to emergency responders on affected railroads would include discussion on the fact that some of these window openings may have smaller dimensions than those required for the minimum number of emergency window exits specified in paragraph (a). At the same time, the Task Force also recognized that emergency responders are well-trained and should be able to determine whether a window opening is large enough to accommodate a stretcher.

Paragraph (d). As the final part of the reorganization and revision of this section, paragraph (d) has been added and contains the requirements for marking emergency window exits, as well as providing operating instructions for their use. Marking and operating instruction requirements for emergency window exits were formerly contained in § 223.9(d)(1) of this chapter, and were referenced in paragraph (c) of this section. The requirements in § 223.9(d)(1) have been to moved to paragraph (d) of this section and modified. Paragraph (d) requires that each emergency window exit be conspicuously marked with luminescent material on the inside of each car, and that legible and understandable operating instructions, including instructions for removing the window panel, be posted at or near each such window exit.

Notably, paragraph (d) specifically requires that emergency window exit operating instructions address potential hindrances to removal of the window panel due to the presence of fixtures in the car. As discussed above, FRA became aware that the phrase ''rapid and easy'' in the requirement for emergency window exit ease of operability was not being interpreted uniformly. Central to the issue was the actual removal of the window panel in light of the weight of the window panel and the presence of interior fixtures near the window. It is not uncommon for a seatback to be located adjacent to an emergency window exit and for a luggage rack to be located above the exit. Even if the seatback does not affect compliance with the dimensions required for an unobstructed opening (especially in the case of a large window panel), it could, together with the presence of the luggage rack, hinder removal of the window. This combination of fixtures could create a situation where the most effective and efficient method for operating an emergency window exit would not be immediately apparent to a passenger, especially if the window were large and heavy. As a result, to promote the rapid and easy removal of the window panel, the Task Force recommended requiring that emergency window exit operating instructions specifically take into account such potential hindrances. Accordingly, if removal of a window (whether it is one of the minimum number required or an ''additional'' emergency window exit) may be hindered by the presence of a seatback, headrest, luggage rack, or other fixture, the instructions must state the method for allowing rapid and easy removal of the window panel, taking into account the fixture(s). This particular portion of the instructions may be in written or pictorial format to provide railroads the flexibility to convey the appropriate information to passengers, especially since a picture (pictogram) or pictures (pictograms) may potentially convey the information more readily than written instructions.

FRA also notes that former § 223.9(d)(1) required that the operating instructions for emergency window exits be ''clear and legible.'' FRA has modified this requirement by replacing the word ''clear'' with the word ''understandable,'' so that railroads are required to post ''legible and understandable'' operating instructions. Use of the word ''clear'' in former § 223.9(d) had created some confusion since it can have more than one meaning, and FRA believes this amendment eliminates any further confusion.

Finally, FRA notes that existing requirements in parts 223 and 239 for the marking of emergency exits, as well as existing requirements in part 238 for the marking of emergency communications transmission points, specify the use of luminescent materials. (Door exits intended for emergency egress may also be lighted, in accordance with § 239.107(a)(1).) Part 238 defines ''luminescent material'' as material that absorbs light energy when ambient levels of light are high and emits this stored energy when ambient levels of light are low, making the material appear to glow in the dark. *See* § 238.5. Paragraph (d) continues to require that luminescent material be used to mark emergency window exits. However, as further discussed below, the Task Force has considered incorporating an APTA standard that would establish specific criteria for this material, including how bright the material must be and how long the material must stay luminescent.

FRA's requirements to mark emergency window exits and other emergency exits originated with FRA Emergency Order No. 20. *See* 61 FR 6876, (Feb. 22, 1996); and 61 FR 8703 (Mar. 5, 1996). Among its provisions, the emergency order required that ''no later than April 20, 1996, commuter and intercity passenger railroads ensure that each emergency exit location is marked inside the car for passenger and crew information.'' In an effort to respond to this requirement as effectively as possible within the short timeframe required, affected railroads began to install photo-luminescent emergency exit markings that were available at the time. Many railroads installed signs made of zinc-sulfide, which were capable of providing luminance only for a period of less than 10 minutes in many cases. Subsequently, photo-luminescent sign technology evolved, and other materials began to be used, such as strontium-aluminate, which is capable of providing high levels of luminance for much longer periods. Prices for such signage also decreased, making the cost of such ''high-performance, photo-luminescent'' (HPPL) signs comparable to that of the

signs installed initially. Thus, in 1999, APTA issued APTA SS–PS–002–98, ''Standard for Emergency Signage for Egress/Access of Passenger Rail Equipment,'' requiring the use of HPPL materials for all newly-installed, passive emergency-exit signs and for the retrofit of existing cars at their remanufacture. According to Revision 2 of this APTA standard, issued in 2003, following a charge of five foot-candles for one hour, installed photo-luminescent markings had to emit not less than a minimum of 7.5 milli-candela per square meter (7.5 mcd/m$^2$) for 90 minutes after removal of the charging source. The APTA standard set the duration period of 90 minutes to correspond with the 90-minute duration requirement for emergency lighting contained in § 238.115 for new passenger cars, which affords a reasonable amount of time for passengers and crew members to wait for the arrival of emergency responders to remote accident sites. Depending on the circumstances, it could take more than an hour for crewmembers to evaluate an emergency situation, coordinate with the control center and emergency responders, notify passengers of the appropriate action(s) to take, and if necessary, begin to evacuate the train. In conditions of darkness, a brighter sign is more easily recognizable and facilitates identification of emergency exits.

As noted, the Task Force has focused on revisions to this APTA standard for purposes of incorporating it into FRA's regulations. FRA considered incorporating elements of the APTA standard into this final rule so that emergency exit signs and intercom markings in passenger cars would be required to be made of HPPL material, and FRA invited comment on doing so. *See* 71 FR 50289. Although no written comments were received, the Task Force discussed at length issues associated with the development of HPPL material component requirements. One of the most difficult issues the Task Force addressed was the extent to which such requirements should apply to photo-luminescent signs and markings already installed in passenger cars. Task Force members were particularly concerned that lighting levels in enclosed vestibule areas in existing cars were not bright enough to charge photo-luminescent signs already in place such that they could meet the level of luminance required by the APTA standard. Field studies and laboratory tests revealed two issues: (1) In many cases, the levels of light in vestibules and other small areas were inadequate for photo-luminescent signs to perform as required by the APTA standard; and (2) sufficiently accurate off-axis illuminance measurements cannot be taken without the use of light meters especially designed to take such measurements—certain commonly available light meters are not designed for such a purpose.

FRA notes that the Task Force separately proposed revisions to the APTA standard to (1) allow flexibility for use of different types of charging light sources, (2) require that new HPPL signs meet the same luminance requirements with lower charging light levels, (3) allow alternative testing criteria using meters that do not measure off-axis illuminance accurately, (4) grandfather signs that are likely to perform as intended for 60 minutes, and (5) in small areas, to allow lower levels of luminance or use of larger signs to compensate for even lower light levels. The Task Force advised that requirements in the APTA standard for HPPL were very detailed and complex and not readily transferable directly into this final rule. Therefore, the Task Force recommended incorporating such requirements by reference into the CFR through a separate rulemaking, after the standard had been revised and authorized by APTA. These would include various other sign and marking requirements, including those addressing size, color, and contrast. FRA agreed with the Task Force's recommendation, and has not modified this final rule with respect to this issue. As discussed earlier, the standard was revised and thereafter authorized by APTA on October 7, 2007. The standard is now designated as APTA SS–PS–002–98, Rev. 3, ''Standard for Emergency Signage for Egress/Access of Passenger Rail Equipment.'' FRA intends to use this standard in a separate rulemaking that will add to and enhance FRA's marking and signage requirements for passenger train emergency systems.

Section 238.114 Rescue Access Windows

FRA has established a new section that contains requirements for rescue access windows for both new and existing passenger cars. As discussed in detail above, this new section was prompted in part by the April 23, 2002 collision involving a Metrolink passenger train near Placentia, CA, and the ensuing NTSB Safety Recommendation (R–03–21) to FRA, which illustrated the potential importance of having rescue access windows on each level of a passenger car. The general intent of the provision is to provide a means of rescue access by emergency responders through a window directly into every passenger compartment on every level of a passenger car, in the event that a stairway or interior door is compromised and exterior doors are blocked.

Paragraph (a). Paragraph (a) contains requirements specifying the minimum number and location of rescue access windows. These requirements apply on or after the effective date of the final rule to all passenger cars, except for certain, existing single-level cars. As noted above, although FRA's original regulations did not specifically require any minimum number of rescue access windows for passenger cars, they continue to require that windows that are intended for rescue access be marked and that instructions be provided for their operation. See § 223.9(d)(2).

Paragraph (a)(1) contains the number and location requirements for rescue access windows in single-level passenger cars. FRA is requiring that each single-level passenger car have a minimum of two rescue access windows. At least one rescue access window must be located in each side of the car, entirely within 15 feet of the centerline of the car, or entirely within 7½ feet of the centerline if the car does not exceed 45 feet in length. As discussed above, the Task Force recommended requiring two windows for rescue access (versus four, as is required for emergency exit) mainly because rescue access windows are the third means of egress in the overall emergency systems approach, with doors and emergency windows being the first and second means of emergency exit, respectively.

Rescue access windows in a single-level passenger car are required to be located ''as close to the center of the car as possible,'' unlike emergency window exits which should be in a staggered configuration to the extent practical. *See* Figure 1a to subpart B; *see also* Figures 1b and 1c to subpart B. Staggering the location of emergency window exits is intended to (i) ensure that a window exit is available for egress in the event that one end of the car is deformed by placing window exits throughout the car; (ii) optimize the rate of egress, as passengers have less distance to move to reach a window exit; and (iii) avoid congestion that could occur if the window exits were all located adjacent to or directly opposite one another. Since, in general, a minimum of only one rescue access window per side, per level of a single-level passenger car is required, the best way to ensure that a window is available for access in the event that either end of the car is

deformed is to locate the window in the center portion of the car, which is generally less vulnerable to significant deformation in the event of a collision involving either end of the car. Congestion should likely not be an issue for rescue access window usage in a situation requiring emergency evacuation as most car occupants physically able to do so would likely have begun to self-evacuate through doors and emergency window exits prior to the arrival of emergency responders.

To ensure that railroads have sufficient flexibility to select those window locations best suited for rescue access, a 30-foot section along the center of a typical 85- to 90-foot-long passenger car has been designated for their location. This flexibility allows railroads to take into consideration the location of external hazards (such as third-rail shoes); potential hindrances created by interior fixtures for those rescue access windows intended to be opened by being pushed inward into the passenger compartment; the location of emergency window exits in passenger cars without dual-function windows; and other factors that a railroad may deem relevant. For passenger cars not longer than 45 feet, approximately half the length of a standard passenger car, railroads have the flexibility to select a rescue access window from among approximately three windows along a 15-foot section in the center of the car.

If the seating level is obstructed by an interior door or otherwise partitioned into separate seating areas, the regulation requires that each separate seating area have at least one rescue access window in each side of the seating area, located as near to the center of the car as practical. This requirement is consistent with the general objective of having at least one rescue access window on each side of a passenger seating area or passenger compartment. Nevertheless, FRA is not aware of any such single-level car in current operation in the United States to which this requirement would apply.

FRA notes that on some single-level passenger cars, polycarbonate windows are installed in a channel in the window mask, which is itself installed in the car body with the frame compressed over the window to secure it. Removal of the window would require removal of the frame, which would be very difficult in an emergency situation. In addition, it would be costly for these cars to be retrofitted with glass windows (so that they could be shattered) or with zip-strip systems to literally un-zip the window panel from its frame and gasketing. On this type of equipment, the location requirement would be met by having a rescue access window available on each side of each end of the same passenger compartment, including in exterior side doors. An exception was crafted that permits the location of the rescue access windows in four exterior side doors. It was approved by the Task Force, Working Group, and the full RSAC, and has been adopted by FRA in this final rule. Moreover, as proposed in the NPRM, the final rule permits these windows to be located farther than 15 feet from the car's centerline, provided that there is at least one such window in each side of each end (half) of the same passenger compartment—a minimum of four rescue access windows, overall. FRA believes that effectively requiring a minimum of four rescue access windows, instead of two, is appropriate for granting flexibility for installing rescue access windows on existing equipment in side doors.

Paragraph (a)(1)(ii) states the number and location requirements for rescue access windows for single-level passenger cars that were ordered prior to September 8, 2000, and placed in service prior to September 9, 2002, if equipped with manual door releases for at least two exterior side doors (or door leaves) in diagonally-opposite quadrants of the cars. The manual door release must be capable of releasing the door (or door leaf) to permit it to be opened without power from outside the car, be located adjacent to the door (or door leaf) which it controls, and be designed and maintained so that an emergency responder could access the release from outside the car without requiring the use of a tool or other implement. The requirements of paragraph (a)(1)(ii) become effective August 1, 2010. FRA decided to make these requirements applicable not until 18 months after publication of this final rule, in part because the passenger cars subject to this provision have safety features not otherwise required for cars of their age—*i.e.*, manual releases capable of opening side doors from outside of the cars. Section 238.235(b) contains requirements for manual door releases, but only applies to passenger cars ordered on or after September 8, 2000, or placed in service for the first time on or after September 9, 2002.

This paragraph also addresses those passenger cars equipped with compressed frame window systems in which rescue access windows will need to be retrofitted in the four side doors by replacing the polycarbonate glazing with glass that can be broken to gain access into the car. The 18-month implementation period allows for the time necessary to plan and carry out the retrofit without disrupting train service. In the interim, emergency responders will continue to rely on the manual door releases to open the side doors for rescue access purposes should the need arise.

In paragraph (a)(2), FRA has adopted minimum requirements for the number and location of rescue access windows in main levels of multi-level passenger cars. Each main level in a multi-level passenger car is subject to the same, minimum requirements provided for single-level passenger cars in paragraph (a)(1) of this section.

In paragraph (a)(3), FRA has adopted minimum requirements for the number and location of rescue access windows in non-main levels of multi-level passenger cars with seating areas. These requirements and exceptions for non-main levels with passenger seating are also the same as those for emergency window exits on non-main levels with passenger seating. Specifically, paragraph (a)(3)(i) requires that any non-main level used for passenger seating in a multi-level passenger car have at least two rescue access windows in each seating area to permit emergency responders to reach occupants without requiring movement through an interior door or to another level of the car. At least one rescue access window must be located in each side of the seating area. A rescue access window can be located within an exterior side door in the passenger compartment if it is not practical to place the rescue access window in the side of the seating area. *See* Figure 2a to subpart B; compare to Figure 2b to subpart B.

Paragraph (a)(3)(ii) requires only one rescue access window in a seating area in a passenger compartment of a non-main level if it is not practical to place a rescue access window in a side of the passenger compartment due to the need to provide accessible accommodations under the ADA; there are no more than four seats in the seating area; and a suitable, alternate arrangement for rescue access is provided. The rationale for this exception is the same as the one for emergency window exits in non-main levels of multi-level passenger cars in § 238.113(a)(3)(ii), as discussed above.

Paragraph (a)(3)(iii) requires that passenger cars both ordered prior to April 1, 2009 and placed in service prior to April 1, 2011 have only one rescue access window in a seating area in a passenger compartment of a non-main level if it is not practicable to place a rescue access window in a side of the passenger compartment (due to the presence of a structure such as a bathroom, electrical locker, or kitchen)

and there are no more than eight seats in the seating area. For more background on this provision, please see the related discussion above for emergency window exits in such seating areas.

In paragraph (a)(4), FRA has adopted minimum requirements for the number and location of rescue access windows for passengers cars with a sleeping compartment or similar private compartment. Each level of a passenger car with a sleeping compartment or a similar private compartment intended to be occupied by passengers or train crewmembers is now required to have a minimum of one rescue access window in each such compartment. For purposes of this paragraph, a bathroom, kitchen, and locomotive cab are not considered a ''compartment.'' These requirements reflect current practice. Amtrak cars with sleeping compartments are already equipped with a window in each such compartment that is capable of being used for both emergency egress and rescue access.

Paragraph (a)(5) addresses the use of dual-function windows as rescue access windows. If on any level of a passenger car the emergency window exits installed to meet the minimum requirements of § 238.113 are intended to function as rescue access windows, the requirements of paragraphs (a)(1) through (a)(4) of this section for the number and location of rescue access windows are met for that level. Under this provision, four rescue access windows are required for cars with dual-function windows that do not have at least one rescue access window in each side within 15 feet of the centerline of the car.

Paragraph (b). Paragraph (b) contains the requirements for the ease of operability of rescue access windows. The requirements apply on or after April 1, 2008, and require that each rescue access window be capable of being removed without unreasonable delay by an emergency responder using either a provided external mechanism, or tools or implements that are commonly available to the responder in a passenger train emergency, such as a sledge hammer or a pry bar. In the NPRM, FRA had proposed the same requirement except for the terminological difference that each rescue access window be capable of being removed ''without undue delay.'' In the final rule, FRA has decided to use the words ''without unreasonable delay,'' however, in order to avoid any confusion with other uses of ''without undue delay'' in FRA's regulations. Nevertheless, for the purposes of this rulemaking, the proposed language in the NPRM and the text of this final rule are intended to mean the same thing with respect to the speed at which the rescue access windows must be capable of being removed.

FRA makes clear that the adopted performance requirement for removing windows ''without unreasonable delay'' is intended to be less stringent than the performance requirement of ''rapid and easy'' that is specified for removing emergency window exits in § 238.113. For example, using a sledge hammer to shatter a glass window would be considered removal without unreasonable delay. Windows that are not made of glass may also be designed to be removed without unreasonable delay by an emergency responder, through use of an axe, sledge hammer, or similar large impact tool to strike the window at an appropriate point so that the window panel will push inward.

Paragraph (c). Paragraph (c) contains the requirements for the dimensions of rescue access windows. Each rescue access window in a passenger car, including a sleeping car, ordered on or after April 1, 2009, or placed in service for the first time on or after April 1, 2011, is required to have an unobstructed opening with minimum dimensions of 26 inches horizontally by 24 inches vertically. If the rescue access window is located within an exterior side door, in accordance with the requirements of paragraph (a)(3)(i) of this section, it is permitted to have an unobstructed opening with minimum dimensions of 24 inches horizontally by 26 inches vertically. FRA makes clear that a seatback is not considered an obstruction if it can be moved away from the window opening without requiring the use of a tool or other implement. The dimensions for rescue access window unobstructed openings are the same as those for emergency window exit unobstructed openings. Accordingly, FRA's reasoning for proposing and adopting these minimum dimensions for emergency window exits applies here to rescue access windows. These minimum dimensions are intended to allow an emergency responder equipped with a self-contained breathing apparatus to pass through the window, as well as allow a train occupant to be carried through the window on a standard-sized stretcher. As noted in the earlier discussion concerning emergency window exits, FRA chose not to adopt a similar exception to the dimension requirements for rescue access windows because the additional rescue access windows are not likely to be as useful in an emergency situation requiring immediate evacuation (*e.g.,* to escape water, smoke, or fire) as additional emergency window exits. The requirement for minimum dimensions also helps ensure that there will be no confusion as to whether or not the window is of the appropriate size to accommodate a responder equipped with breathing equipment and a standard-sized stretcher.

Paragraph (d). As discussed above, FRA has modified the requirements for rescue access window marking and operating instructions, which were formerly contained in § 223.9(d)(2), and has moved them here to paragraph (d). Formerly, each rescue access window was required to be ''marked with a retroreflective, unique, and easily recognizable symbol or other clear'' marking. FRA has restated these requirements to make clear that rescue access windows must be marked with retroreflective material. Second, FRA makes clear that a unique and easily recognizable symbol, sign, or other conspicuous marking must be used to identify each rescue access window. FRA has replaced the word ''clear'' in the former requirements with the word ''conspicuous'' and has added the word ''sign'' as another example of a conspicuous marking. The revisions make clear that use of retroreflective material to mark a rescue access window is a distinct requirement in itself that was adopted to enable emergency responders to quickly identify rescue access windows under conditions of darkness by shining a flashlight on a car. Second, the revisions make clear that the window must also be marked by a unique and easily recognized symbol, a sign (such as ''RESCUE ACCESS''), or other conspicuous marking (such as delineation of the window by means of a contrasting color). Both requirements could be met by the same marking.

FRA also notes that the regulations formerly required that each railroad post ''clear and understandable'' window access instructions either at each rescue access window or at each end of the car. FRA has replaced the word ''clear'' with the word ''legible,'' so that railroads are required to post ''legible and understandable'' operating instructions. Use of the word ''clear'' in § 223.9(d) had created some confusion, since it could have more than one meaning, and FRA believes the amendment eliminates any further confusion. FRA has also modified the requirements so that it is no longer permissible to have window access instructions solely at the end of the car. Instead, legible and understandable rescue access window instructions, including instructions for

removing the window, are required to be posted at or near each rescue access window. FRA agreed with the Task Force that rescue access efforts could be unduly delayed by posting rescue access window operating instructions at the end of a car, potentially more than 40 feet away from the rescue access window to which the instructions apply.

As noted above in the discussion of emergency window exits, the Task Force has focused on revisions to APTA SS–PS–002–98, Rev. 2, ''Standard for Emergency Signage for Egress/Access of Passenger Rail Equipment,'' in order to recommend whether some or all of its contents should be incorporated into FRA's regulations. This APTA standard also contains detailed criteria for marking rescue access windows, including the use of retroreflective material. FRA invited comment on whether the criteria in the APTA standard or in draft revisions to this standard for marking rescue access windows were appropriate for use in the final rule. *See* 71 FR 50292. While no written comments were received on this issue, both the Task Force and the Working Group recommended that FRA add the criteria to the final rule. FRA agrees and has added a definition of ''retroreflective material'' that incorporates by reference criteria from ASTM's Standard D 4956–07 for Type I Sheeting. See the discussion in § 238.5. This newly added definition is consistent with the definition and requirements for retroreflective markings for rescue access windows that are contained in Revision 3 of the APTA standard.

In order to maintain optimum retroreflective properties of the base material, any retroreflective markings that have ink or pigment applied should utilize a translucent or semi-translucent ink, as per the manufacturer's instructions. A clear coat that protects against ultra-violet light may be added to the markings to prevent fading. Retroreflectivity requirements shall be met if protective coatings or other materials for the enhancement of marking durability are used.

Section 238.121 Emergency Communication

This new section establishes emergency communication requirements for Tier I passenger equipment and replaces the previous emergency communication system requirements in § 238.437 for Tier II passenger equipment. Overall, the adopted requirements generally reflect current practice for Tier I passenger equipment and generally carry forward the former requirements for Tier II passenger equipment.

In the NPRM, FRA had originally proposed to designate this section as § 238.117 and redesignate § 238.117 (Protection against personal injury) as § 238.121. *See* 71 FR 50276, 50304. FRA had believed that such a redesignation would help keep the emergency system requirements together in section numbering sequence for the benefit of the user. However, concern has been raised that redesignating original sections of the May 12, 1999 Passenger Equipment Safety Standards rule could cause unnecessary confusion, and FRA has decided against the proposed redesignation. FRA has chosen instead to designate this section as § 238.121. This new designation has no effect on the substance of the emergency communication requirements.

Paragraph (a). Paragraph (a) contains requirements for PA systems for both existing and new Tier I and Tier II passenger cars. Most passenger cars used in commuter and intercity service are equipped with PA systems that train crews often use to notify passengers of the nature and expected duration of delays. If a person requires immediate medical attention, the crew may also use the PA system to request assistance from someone onboard with medical training. Railroad representatives on the Task Force noted that PA systems are particularly beneficial in the immediate aftermath of an accident to provide instructions for appropriate passenger action. In light of a security threat or other emergency situation requiring rapid evacuation of an area, crews may also use the PA system to instruct passengers to deboard as quickly as possible. If there is a hazard on one end of the train or one side of the train, crews may use the PA system to notify passengers of the hazard and direct them to use the appropriate exit route(s) that would avoid or minimize their exposure to the hazard. Of course, all things being equal, the safest place for passengers is to remain onboard the train. Deboarding could aggravate an emergency situation, particularly if passengers step onto the right-of-way on their own without direction from a crew member. Accordingly, the crew must have the means to provide passengers with appropriate instructions as soon as possible.

Paragraph (a)(1) requires that on or after January 1, 2012, each Tier I passenger car be equipped with a PA system that provides a means for a crewmember to communicate to all train passengers in an emergency situation. FRA understands that existing Tier I passenger cars that currently do not have PA systems are scheduled to be retired before 2012 and thus would be removed from service before the requirement would apply. FRA notes that APTA's PRESS Task Force is currently evaluating the feasibility of a wireless, two-way communication system that would function independently of the train line, *i.e.*, not rely on the train line for power. The wireless system is intended to provide a means of two-way communication in the event that the train line is broken, as may occur as a result of certain collisions or derailments. However, FRA makes clear that it is not currently adopting a requirement in this section that the communication system be wireless; communication through use of a train line is still permitted.

Paragraph (a)(2) contains requirements for new Tier I and all Tier II passenger cars. As is stated for existing Tier I passenger cars in paragraph (a)(1), this paragraph requires that each Tier I passenger car ordered on or after April 1, 2008, or placed in service for the first time on or after April 1, 2010, and all Tier II passenger cars be equipped with a PA system that provides a means for a crewmember to communicate to all train passengers in an emergency situation. In addition, PA systems in new Tier I and all Tier II passenger cars are required to provide a means for a crewmember to communicate in an emergency situation to persons in the immediate vicinity of the train (*e.g.*, on the station platform). These requirements include the basic features of PA systems installed in most recently-manufactured Tier I passenger cars and in all existing Tier II passenger trains.

Finally, it should be noted that the PA system may be part of the same system as the intercom system. A shared configuration is quite common on cars equipped with both PA and intercom systems.

Paragraph (b). Paragraph (b) contains the requirements for intercom systems. Traditionally, conductors and assistant conductors have been relied upon to relay information to passengers in both normal and emergency situations through face-to-face interaction or by use of a PA system. However, with smaller crew sizes, such face-to-face communication may not be possible for passengers attempting to quickly communicate to the crew a medical emergency, safety concern, or security threat requiring immediate attention. For instance, a passenger in the last car of a train who needs to communicate a safety or security threat to a crewmember could potentially have to walk the entire length of the train to do

so (assuming the crew is composed of an engineer and one conductor, who in this circumstance would be in the first car at the time). Furthermore, if the conductor were incapacitated, passengers would need to communicate with the engineer. The Task Force therefore recommended and FRA decided that emergency communication systems in new passenger cars must include intercom systems to enable passengers to quickly communicate emergency situations to the train crew. These requirements reflect common intercom system configurations for new passenger cars.

Specifically, paragraph (b)(1) contains the intercom system requirements for new Tier I and all Tier II passenger cars. Each Tier I passenger car ordered on or after April 1, 2008, or placed in service for the first time on or after April 1, 2010, and all Tier II passenger cars are required to be equipped with an intercom system that provides a means for passengers and crewmembers to communicate with each other in an emergency situation. Passenger cars that are at least 45 feet in length are required to have a minimum of one intercom in each end (half) of each car that is accessible to passengers without requiring the use of a tool or other implement. Although some passenger cars currently equipped with intercom systems have one located in each end (half), others have only one per car. An intercom in each end (half) of a car is intended to allow passengers to have access to an intercom within half a car length, which is normally 42 to 45 feet, and without having to pass into an adjoining car. As long as intercoms are accessible to passengers, they may be placed anywhere in each end (half) of the car and not necessarily in the far ends.

Paragraph (b)(1) continues the logic of former § 238.437 by requiring only one intercom for a passenger car that does not exceed 45 feet in length, such as the Talgo passenger cars operated by Amtrak. As the length of a conventional passenger is typically between 85 and 90 feet, FRA believes it appropriate to require a car not more than half that length to have only one intercom location. This paragraph also continues to require, as § 238.437 formerly did, that a Tier II passenger car ordered prior to May 12, 1999, be equipped with only one intercom. The preamble to the April 23, 2002 final rule, which amended the May 12, 1999 final rule, explained that after FRA had proposed that intercoms be located at each end of a Tier II passenger car, Amtrak indicated that not all passenger cars in its high-speed trainsets had intercom transmission locations at each end of the cars. *See* 67 FR 19986. Amtrak further noted that the intercoms would be difficult to install at the non-vestibule ends of the cars. As these trainsets were in development in advance of both the then-proposed and final rules, FRA made an exception for all cars ordered prior to May 12, 1999, and this final rule carries forward this exception.

Some Task Force members were concerned that making the intercoms accessible to passengers without requiring the use of a tool or other implement could lead to misuse that could unnecessarily distract the train operator. However, representatives from Amtrak and various commuter railroads that operate cars with intercom systems indicated that they have successfully implemented measures to deter misuse. For instance, on some passenger cars, the intercom transmission device is located in a safety compartment designated and marked for emergency communications only. In the proposed rule, FRA invited comment on whether passenger misuse of intercom systems had been identified as a problem, and, if so, FRA invited suggestions for measures that could curb such misuse without rendering the systems inaccessible to passengers in an emergency. No comments were received on this issue, and FRA has decided to adopt the language as proposed. FRA makes clear that intercoms need to be accessible to passengers with disabilities to the extent required by the ADA and its implementing regulations.

Paragraph (b)(2) requires that the location of each intercom intended for passenger use be clearly marked with luminescent material and that legible and understandable operating instructions be posted at or near each such intercom to facilitate passenger use. These requirements apply to each Tier I passenger car on or after April 1, 2010, and continue to apply to each Tier II passenger car. During the development of the rule, some railroad representatives on the Task Force noted that although instructions are currently posted at the intercom locations on their cars, there are no luminescent markings. The Task Force therefore recommended that luminescent markings be required. FRA proposed to adopt such a requirement in this final rule, and invited comment on whether the luminescent material should be HPPL material, as discussed below. *See* 71 FR 50293. The final rule requires luminescent marking of each intercom location to ensure that the intercom can be easily identified for use in the event that both normal and emergency lighting are not functioning. The posted operating instructions, however, are not required to be luminescent. Some Task Force members indicated that the instructions may be easier to read when not luminescent.

As noted in the discussion concerning emergency window exit signage, above, APTA SS–PS–002–98, ''Standard for Emergency Signage for Egress/Access of Passenger Rail Equipment,'' contains specific criteria for luminescent markings. The Task Force has focused on revisions to this APTA standard in order to recommend whether to incorporate some or all of its contents into part 238 by reference and thereby require that luminescent markings for intercoms comply with the standard as it relates to luminescent markings. APTA PRESS has also indicated that they intend to revise APTA SS–PS–001–98, ''Standard for Passenger Railroad Emergency Communications,'' to include more specific requirements for marking emergency communication systems. In the proposed rule, FRA invited comment on whether the luminescent material that would be required for marking should be HPPL material. FRA indicated that it would evaluate any comments received in considering whether a requirement for use of HPPL material should be established in the final rule.

Although no written comments were received, the Task Force discussed at length issues associated with the development of HPPL material component requirements, as noted above. Ultimately, the Task Force advised that requirements in Revision 2 of APTA Standard SS–PS–002–98, ''Standard for Emergency Signage for Egress/Access of Passenger Rail Equipment,'' for HPPL were very detailed and complex and not readily transferable directly into this final rule. Therefore, the Task Force recommended incorporating such requirements by reference into the CFR through a separate rulemaking, after the standard had been revised and authorized by APTA. These would include various other sign and marking requirements, including those addressing size, color, and contrast. FRA agreed with the Task Force's recommendation, and has not modified this final rule. Accordingly, the marking is only required to be luminescent. As noted, APTA authorized Revision 3 of the standard on October 7, 2007, and FRA intends to use this standard in a separate rulemaking that will add to and enhance FRA's marking and signage requirements for passenger train emergency systems.

Paragraph (c). Paragraph (c) continues to require that PA and intercom systems on Tier II passenger trains have back-up

power for a minimum period of 90 minutes. *See* former § 238.437(d). An example of a back-up power source is the main battery in a passenger car. PA and intercom systems may continue to draw back-up power from a source which provides power to other systems, as the main car battery does. These systems are not required to have a back-up power source that provides power exclusively for their operation. Additionally, it is permissible to meet this requirement using a main car battery located in another car, if the two cars are semi-permanently coupled as in the case of a married pair of MU locomotives.

The Task Force approved a recommendation for a back-up power requirement for new Tier I passenger cars, similar to the requirements contained in § 238.115(b)(4) for emergency lighting back-up power systems. That is, the back-up power system must be capable of operating: in all equipment orientations within 45 degrees of vertical; after the initial shock of a collision or derailment resulting in individually applied accelerations of 8g longitudinally, 4g laterally, and 4g vertically; and for at least 90 minutes. Yet, this recommendation was not forwarded to the Working Group, due to an oversight, prior to the publication of the NPRM. Given that backup power to the PA and intercom systems could be supplied by the same source as that for the emergency lighting system, and that the amount of power required would likely be only a fraction of that required for the emergency lighting system, FRA had no reason to believe that this recommendation would not have received the full support of the Working Group or full RSAC. As a result, FRA noted in the NPRM that it was considering inserting in the final rule a back-up power system requirement containing the provisions recommended by the Task Force, and FRA invited comment on doing so. In particular, FRA sought comment on whether the system needs to be capable of providing continuous communication over the 90-minute period, or only intermittent communication, which would draw less battery power. FRA noted that it may not be necessary to provide the means to communicate continuously for a 90-minute period, and FRA invited comment as to how many minutes of intermittent communication would need to be provided.

While no written comments were received on this issue, the Task Force discussed the matter at length during its meeting held on October 25–26, 2006. Both APTA and the UTU indicated that 90 minutes of continuous communication was unnecessary. Instead, the Task Force recommended that intermittent communication with the equivalent of 15 minutes of continuous communication would be sufficient during a 90-minute period. In order to ensure that the system will have enough power to support a total of 15 minutes of communication at any point during the 90-minute period, the Task Force agreed that the system must, at a minimum, support 15 minutes of continuous communication at the end of the 90-minute period (*i.e.*, during minutes 76 through 90). The Working Group concurred with the Task Force's recommendations, and FRA has agreed to adopt them in this final rule. As a result, the final rule includes requirements for a back-up power system for both Tier I and Tier II passenger trains.

Section 238.123 Emergency Roof Access

This new section contains emergency roof access requirements for Tier I and Tier II passenger cars ordered on or after April 1, 2009, or placed in service for the first time on or after April 1, 2011. Requirements for Tier II power cars and existing Tier II passenger cars remain in § 238.441, as discussed below. The emergency roof access requirements for Tier II passenger equipment contained in former § 238.441 and APTA PRESS recommended practice RP–C&S–001–98, ''Recommended Practice for Passenger Equipment Roof Emergency Access,'' serve as the basis for the requirements in this section. This APTA recommended practice contains additional useful information not included in this final rule; however, FRA notes that this final rule supersedes certain provisions of the recommended practice.

In the NPRM, FRA originally proposed to designate this section as § 238.118, *see* 71 FR 50276, 50304. FRA has chosen instead to designate this section as § 238.123, consistent with the decision not to redesignate original sections of the May 12, 1999, Passenger Equipment Safety Standards final rule. This new designation has no effect on the substance of the emergency roof access requirements.

Emergency roof access locations (roof hatches or structural weak points) can be especially useful in emergency situations where passenger cars have rolled onto their sides following certain collision and derailment scenarios. All things being equal, car rollover or tilt should result in more severe injuries than when a car remains upright, as occupants may be thrown greater distances inside the car. In turn, this risk increases the potential need for rescue access of the car's occupants because of the reduced likelihood that the occupants can evacuate the car on their own. In addition, when there is a rollover, doors, which are the preferred means of access under normal circumstances, may be blocked or otherwise rendered inoperable due to structural damage to the door or the door pocket. In particular, end doors, which due to the direction they face, would normally be better suited for use than side doors when a car has tilted or rolled onto its side, may also be blocked, jammed, or otherwise unavailable for use. Moreover, although emergency responders may be able to enter a car that is on its side via a rescue access window, the removal of an injured occupant through a side window in such circumstances can be difficult or complicated, especially depending upon the condition of the occupant.

Paragraph (a). Paragraph (a) contains requirements for the number and dimensions of emergency roof access locations. Each passenger car ordered on or after April 1, 2009, or placed in service for the first time on or after April 1, 2011, must have a minimum of two emergency roof access locations. Although the May 12, 1999, final rule required Tier II passenger cars and power cars to have only one roof hatch for emergency roof entry or at least one structural weak point for properly equipped emergency personnel to quickly access a car, many new Tier I multi-level passenger cars are currently being manufactured with up to four structural weak points in the roof. In determining the minimum number of access points needed for new Tier I and Tier II passenger cars, the Task Force agreed it would be useful to protect the emergency roof access locations against crush at either end of the car. To do so would require placement of the locations away from the far ends of the car or, at a minimum, placement not in the same end (half) of the car in the event that the end with the access points becomes crushed. Second, the Task Force thought it prudent to facilitate rescue access by having the access points located within the bottom half of the car's roof, so that the bottom of the opening would be closer (lower) to the ground and thus, presumably, more easily accessible when the car is on its side. This would require having one access point on either side of the roof's longitudinal centerline. To accomplish both goals, the Task Force recommended having two access points

located at diagonally-opposite quadrants of the roof. *See* Figure 3 to subpart B.

Under this new section, each roof access location is required to have a minimum opening of 26 inches longitudinally (*i.e.*, parallel to the longitudinal axis of the car) by 24 inches laterally. These dimensions are consistent with the minimum dimension requirements for emergency window exits specified for new passenger cars in the 1999 Passenger Equipment Safety Standards final rule, *see* 64 FR 25673, and were based on specifying opening requirements necessary to allow passage of an emergency responder equipped with a self-contained breathing apparatus or fire gear, as well as to allow passage of a person being carried on a backboard or basket stretcher, *see* 64 FR 25595–25596. In discussing the issue of appropriate dimensions for emergency roof access locations, Task Force members noted that in order to gain access to a car via a structural weak point, a responder would normally have to cut through the roof skin, which is usually steel, and then through the lining. In some cases, a responder may have to cut through additional non-rigid structures. If the outside dimensions are only 26 inches longitudinally by 24 inches laterally, and multiple cuts through car structures are required to gain access to the passenger compartment, this could present a problem for emergency responders, since each subsequent cut made using a saw would potentially result in a smaller opening. Consequently, railroads and car builders would need to take this into account when designing structural weak points and ensure that the dimensions of the final cut in such circumstances would still result in an opening meeting the minimum dimension requirements. This concern is addressed further in the discussion of paragraph (d), below.

Paragraph (b). Paragraph (b) provides that permissible means of emergency roof access include either a hatch, or a clearly marked structural weak point in the roof for access by properly equipped emergency response personnel. Structural weak points, commonly known as ''soft spots,'' are usually created by routing cables, wiring, and piping in the roof of the car around the location designated for roof access. This paragraph affords railroads the flexibility of installing either roof hatches or providing structural weak points in the roof, as each individual railroad is in the best position to decide which one is preferable taking into consideration such factors as the car's intended use and the safety hazards presented by one versus the other. For example, although roof hatches could provide a means of self-evacuation in addition to a means of access, placing them in the roofs of electric MU locomotives, which rely on overhead catenary systems for power, could create an electrocution hazard for occupants attempting to self-evacuate in an emergency.

Paragraph (c). Paragraph (c) requires that emergency roof access points be located, insofar as practical, in such a manner that when a car is on its side: (i) One emergency roof access location is wholly within each half of the roof as divided top from bottom; and (ii) one emergency roof access location is wholly within each half of the roof as divided left from right. *See* Figure 3 to subpart B. Use of the word ''practical'' allows railroads and car builders some discretion regarding the location of the access points and is necessary to accommodate particular equipment types. For instance, some electric MU equipment has pantographs that take up a significant portion of one end of the rooftop, making it difficult to place one emergency access location wholly within each half of the car's roof. Additionally, on some passenger cars that have luggage racks, it may be more practical to place the emergency access location so that it is not wholly within the bottom half of the car's roof (when the car is on its side) if doing so would facilitate rescue access by eliminating the need for emergency responders to cut through or maneuver around the luggage racks to get to passengers.

Paragraph (d). Paragraph (d) contains provisions related to obstructions and requires that the ceiling space below each emergency roof access location be free from wire, cabling, conduit, and piping. Additionally, paragraph (d) requires that, where practicable, this space also be free of rigid secondary structure(s) (*e.g.*, diffusers and diffuser support, lighting back fixtures, mounted PA equipment, and luggage racks). In determining the placement of the emergency roof access locations, railroads and manufacturers need to consider the requirements of § 238.123 as a whole. Use of the word ''practical'' in paragraph (c) is intended to allow more discretion than would be allowed through use of the word ''practicable'' in this paragraph (d). For example, in a situation where placement of an emergency roof access location wholly within the bottom half of a car's roof (when the car is on its side) would result in obstruction by a rigid secondary structure, a railroad would be required to place the roof access location elsewhere so as to avoid the obstruction, even though this may result in its placement partially in both sides of the roof, or otherwise not wholly within each half of the roof. In such a situation, the rule recognizes that avoidance of the rigid secondary structure is more critical than the exact location of the emergency roof access location.

If emergency roof access is provided by means of a hatch, it must be possible to push interior panels or liners out of their retention devices and into the interior of the vehicle after removing the hatch. For example, for car interior aesthetics, it would not be uncommon to cover the area below the hatch with lining and use a fastener like VELCRO© to secure the lining in place. This type of cover and securement make it possible for emergency responders to reach the interior of the vehicle by pushing in the lining after removing the hatch. This is just one example, and other types of covers and means of securement are permissible, provided emergency responders are able to push through them to reach the interior of the vehicle after removing the hatch.

If emergency roof access is provided by means of a structural weak point, the rule states that it is permissible to cut through interior panels, liners, or other non-rigid secondary structures after making the cutout hole in the roof. However, any such additional cutting that is required must permit a minimum opening of the dimensions specified in paragraph (a) to be maintained. In this regard, having to make additional cuts could affect the size of the markings indicating the structural weak points, as provided in paragraph (e).

Paragraph (e). Paragraph (e) contains requirements for providing markings of, and instructions for, emergency roof access locations. Each emergency roof access location is required to be clearly marked with retroreflective material of contrasting color. The retroreflective material is intended to enable emergency responders to quickly identify the access locations by shining a light on the roof. As discussed in the section-by-section analysis of the definition of ''retroreflective material,'' FRA has incorporated ASTM International's Standard D 4956–07 by reference in the CFR.

While FRA did not specifically request comment on applying this definition to roof access markings, FRA believes it logical to apply this definition here, in addition to applying it to rescue access windows in § 238.114. The underlying reasons for using retroreflective material for roof access markings are the same as those for using the material for rescue access

window markings. Nevertheless, FRA notes that this definition has not been included in the emergency roof access marking requirements in § 238.441 for existing Tier II passenger cars and power cars—only for new equipment. As a result, markings on existing equipment do not have to be removed and reapplied, should they not be in conformance with the retroreflectivity criteria applicable to markings on new equipment in this final rule.

Paragraph (e) requires that legible and understandable instructions be posted at or near each emergency roof access location. These instructions are not required to be retroreflective for two principal reasons: it can be difficult to read writing on certain grades of retroreflective materials while shining light on them, and light used to identify the emergency rescue access locations should be available for reading the instructions as well. This is consistent with the requirements for marking rescue access windows. As an additional requirement, paragraph (e) requires that if emergency roof access is provided by means of a structural weak point, the line along which the roof skin is intended to be cut is required to be clearly marked with retroreflective material. The size of the border marking may have to be larger than 24 inches laterally by 26 inches longitudinally to ensure that any cuts in addition to the cut through the roof skin retain the minimum dimensions required for the opening. Structural weak points are also required to have a sign plate with a retroreflective border that states as follows:

**CAUTION—DO NOT USE FLAME-CUTTING DEVICES**

**CAUTION—WARN PASSENGERS BEFORE CUTTING**

**CUT ALONG DASHED LINE TO GAIN ACCESS**

**ROOF CONSTRUCTION—[STATE RELEVANT DETAILS]**

In particular, warning must be provided against use of a flame-cutting device during a rescue access attempt to avoid creation of a fire hazard. This is especially important since rescue access is usually a last resort for those who cannot self-evacuate due to being injured or disabled, as well as due to the lack of a viable exit. Emergency responders usually have a variety of tools available to them at the scene of an emergency, including a specialized saw which can be used to cut through steel, and do not have to rely on flame-cutting devices.

*Subpart D—Inspection, Testing, and Maintenance Requirements for Tier I Passenger Equipment*

Section 238.303 Exterior Calendar Day Mechanical Inspection of Passenger Equipment

This section contains the requirements related to the performance of exterior mechanical inspections of passenger cars (*e.g.*, passenger coaches, MU locomotives, and cab cars) and unpowered vehicles used in a passenger train each calendar day that the equipment is used in service. Paragraph (e) of this section identifies the various components that are required to be inspected as part of the exterior calendar day mechanical inspection.

As proposed, FRA is adding new paragraph (e)(18) to require that all rescue-access-related exterior markings, signage, and instructions required by § 238.114 (rescue access windows) and § 239.107 (emergency exits) be in place and, as applicable, conspicuous, and/or legible. Paragraph (e)(18)(i) does permit passenger cars with any required rescue-access-related exterior markings, signage, or instructions that are missing, illegible, or inconspicuous, as applicable, to remain in passenger service until the equipment's fourth exterior calendar day mechanical inspection or next periodic mechanical inspection required under § 238.307, whichever occurs first, after the noncompliant condition is discovered. The car must then be repaired or removed from service.

The four-day repair flexibility is intended to allow railroads to schedule repairs at locations where they can be performed safely and in a manner that would avoid disrupting normal operations. Railroad representatives on the Task Force noted that not all yards are properly equipped for personnel to safely, effectively, or efficiently remove and replace signage on the exterior of cars. For example, work on the upper levels of cars can be more safely performed at maintenance facilities that have platform ladders. In addition, various vendors noted that signs and markings must be applied on a dry, clean surface at temperatures of approximately 65 degrees Fahrenheit and must be allowed to set for up to two hours. Graffiti may render a sign, marking, or instruction illegible and thus in need of replacement. Proper removal of a sign can be a long and tedious process because the adhesives used are difficult to remove. This, coupled with the conditions necessary for application of a sign, may make it an unfeasible task for some railroads to perform during an exterior calendar day mechanical inspection. Furthermore, some long-distance intercity train trips take three or four days to complete, and many of the en-route repair locations may not be appropriate places to make the repairs to signage. Removing a car from service for missing rescue access signage before it reaches its final destination could result in stranding passengers on platforms or require that the same number of passengers ride in a fewer number of cars, with fewer emergency exits available to them as a whole. Thus, the safety of both railroad employees and railroad passengers also necessitates that some flexibility be provided in making repairs.

Paragraph (e)(18)(ii) provides even greater flexibility for use of passenger cars with required rescue-access-related exterior markings, signage, or instructions that are missing, illegible, or inconspicuous on a side of a level of a car that has more than 50 percent of the windows designated and properly marked for rescue access. Such a car is permitted to remain in passenger service until no later than the car's next periodic mechanical inspection required under § 238.307, where the car must repaired or removed from service. In developing the rule, FRA agreed with the Task Force recommendation that this added flexibility for these types of cars recognizes the extra effort that a railroad undertakes by designating and identifying a greater number of rescue-access windows than is required by § 238.114. A single act of vandalism may destroy multiple signs, markings, and instructions or render them illegible or inconspicuous. Placement or replacement of several signs could take more time than may be scheduled for maintenance of the car prior to the periodic mechanical inspection. FRA believes it makes little sense to require immediate repair of the damaged markings when more than a sufficient number meeting the requirements of § 238.114 are still present on the equipment. Moreover, without such flexibility, railroads would likely be discouraged from designating more rescue-access windows than are required by § 238.114.

Similarly, paragraph (e)(18)(iii) provides flexibility for the continued use of a sleeping car that has more than two consecutive windows with any required rescue-access-related exterior markings, signage, or instructions at or near their locations that are missing, illegible, or inconspicuous. Such a car may be operated in passenger service until the car's next periodic mechanical inspection required under § 238.307, when it would have to be repaired or removed from service. FRA believes this

flexibility is necessary because each sleeping compartment intended to be occupied by passengers or train crewmembers is required to have a minimum of one rescue access window in the compartment under § 238.114 and most sleeping compartments have only one window. If two consecutive windows were missing exterior markings, signage, or instructions, an emergency responder would still be readily able to gain access via the window by relying on the signage, markings, or instructions posted at a nearby window.

Paragraph (e)(18)(iv) requires that a record of any noncomplying marking, signage, or instruction described in paragraphs (e)(18)(i) through (iii) be maintained. This record must contain the date and time that the defective condition was first discovered, and must be retained until all necessary repairs have been completed. These records are necessary for purposes of tracking when the defect was first discovered and will be utilized in determining when repairs have to be made on cars that remain in passenger service. Most commuter and intercity railroads already keep this type of record electronically.

Section 238.305 Interior Calendar Day Mechanical Inspection of Passenger Cars

This section contains the requirements related to the performance of interior calendar day mechanical inspections of passenger cars (*e.g.*, passenger coaches, MU locomotives, and cab cars) each calendar day that the equipment is used in service. Paragraph (c) identifies the various components that are required to be inspected as part of the interior calendar day mechanical inspection. Except as provided in paragraphs (c)(8) through (c)(12), and in paragraph (d), all noncomplying conditions under this section must be repaired at the time of the daily interior inspection or the equipment is required to be locked-out and empty in order to be placed or remain in passenger service. FRA notes that it has revised the introductory text of paragraph (c) to expressly reference paragraphs (c)(8) through (c)(12), removing the reference to paragraphs (c)(5) through (c)(7). Paragraphs (c)(5) through (c)(7) do not contain any exceptions themselves. Instead, paragraph (d) references these paragraphs, and it is by operation of paragraph (d) that exceptions are provided. FRA makes clear that removing the reference to paragraphs (c)(5) and (c)(7) in the introductory text of paragraph (c) does not have any effect on the exceptions currently provided in this section.

As proposed in the NPRM, FRA has also slightly modified paragraph (c)(10) in order to add a condition under which a car with noncompliant end doors and side doors may continue in passenger service pursuant to paragraph (d) of this section. The former conditions for such operation were that at least one operative and accessible door be available on each side of the car and a notice be prominently displayed directly on the defective door indicating that the door is defective. In addition to those conditions, this paragraph now requires that the train crew be provided written notification of the noncompliant condition. This additional measure is intended to ensure that crewmembers are aware of a door that may not be available for use in an emergency situation that requires the off-loading of passengers. Without this additional measure, train crews may not realize a door is defective until they actually try to use it. If an emergency requiring the rapid off-loading of passengers should occur before the crew notices that the door is inoperative, then the crew might direct passengers to that door, which could unnecessarily delay the evacuation of the train.

FRA has also added new paragraph (c)(12) to cover the inspection of PA and intercom systems. Paragraph (c)(12) contains requirements for ensuring that, on passenger cars so equipped, PA and intercom systems are operative and function as intended as part of the interior calendar day mechanical inspection. This paragraph also affords flexibility for handling noncompliant equipment, provided that the train crew is given written notification of the defect and a record of the time and date the defect was discovered is maintained. Thus, a passenger car with an inoperative or nonfunctioning PA or intercom system is permitted to remain in passenger service until no later than the car's fourth interior calendar day mechanical inspection or next periodic mechanical inspection required under § 238.307, whichever occurs first, or for a passenger car used in long-distance intercity train service until the eighth interior calendar day mechanical inspection or next periodic mechanical inspection required under § 238.307, whichever occurs first, after the noncompliant condition is discovered. At that time, the PA or intercom system, or both, would have to be repaired, or the car would have to be removed from service.

In developing the rule, railroad representatives on the Task Force noted that PA systems are currently inspected on a daily basis and any necessary repairs are made at the first convenient opportunity. The provision requiring that the train crew be given written notification of any noncompliant PA or intercom system is intended to ensure that the crew is aware of any nonfunctioning system(s) and will not rely upon any such system for communication in the event of an emergency situation. Without such notification, the train crew could mistakenly rely on a system that is inoperative, which could potentially hinder resolution of an emergency situation where the crew relies on using the PA or intercom system to communicate instructions or warnings of hazards to passengers.

In modifying paragraph (c), FRA has reserved paragraph (c)(11) for a contemplated requirement that all low-location emergency exit path markings be in place and conspicuous as part of the interior calendar day mechanical inspection. Low-location emergency exit path markings provide a visual means for passenger car occupants to locate emergency door exits under conditions of limited visibility due to darkness or the presence of smoke, or both. FRA intends to propose minimum standards for low-location emergency exit path markings in a separate NPRM on passenger train emergency systems.

Finally, as discussed in the NPRM, FRA considered clarifying paragraph (c)(7), the interior calendar day inspection requirement that ''[a]ll safety-related signage is in place and legible.'' 71 FR 50297. FRA considered including in paragraph (c)(7) express references to signage, as well as markings and instructions, required by parts 238 and 239. FRA invited comment on whether such clarification should be provided in the final rule. No comment was received, and, in discussing this issue with the Task Force, the Task Force did not recommend making a change in the final rule, as this was already clear. FRA does not believe a change is necessary at this time, but may make modifications related to the possible incorporation by reference of the APTA signage standard in a future rulemaking.

Section 238.307 Periodic Mechanical Inspection of Passenger Cars and Unpowered Vehicles Used in Passenger Trains

This section contains the requirements for performing periodic mechanical inspections on all passenger cars and all unpowered vehicles used in passenger trains. Paragraph (c) identifies the various components that are required to be inspected as part of the periodic mechanical inspection that is required to be conducted no less

frequently than every 184 days. FRA has modified paragraph (c)(5), which requires in paragraph (c)(5)(i) that emergency lighting systems be inspected no less frequently than every 184 days to determine that they are in place and operational, to reserve requirements in paragraph (c)(5)(ii) for the periodic inspection of other emergency systems in this timeframe, such as low-location exit path marking. As discussed above, FRA intends to propose minimum standards for low-location emergency exit path marking in a separate rulemaking on passenger train emergency systems.

FRA notes that if emergency lighting is found to be defective at any time other than the periodic mechanical inspection required by paragraph (c)(5)(i), it still must be brought into compliance pursuant to the provisions contained in § 238.17 related to non-running-gear defects.

FRA had proposed to include periodic inspection requirements within the 184-day timeframe for emergency roof access markings and instructions. However, FRA has decided to require that emergency roof access markings and instructions be inspected no less frequently than every 368 days, as provided in paragraph (d) of this section. As discussed earlier, in commenting on the NPRM, Caltrans requested that FRA extend the interval between inspections for roof access markings and instructions to a maximum of 368 days, instead of the 184 days that FRA had proposed. Caltrans stated that it maintains its passenger equipment on a 120-day maintenance cycle, and that a requirement to inspect the roof access markings and instructions every 184 days would result in Caltrans having to inspect them every 120 days. Caltrans stated that this would increase costs and the potential for employee injury, as each of its inspection requires the use of a man-lift or harness for an employee to safely inspect the markings.

This comment was referred to the Task Force and, with Caltrans' representatives present, the Task Force discussed this comment. Commuter railroads indicated that they had been operating cars with roof access locations for several years or more and that roof access markings and instructions had remained legible and conspicuous during that time. These railroads noted that vandalism has not been a concern for rooftops, and that vandals are much more likely to vandalize the sides of cars, which are much more easily accessible. Further, sign vendors stated that retroreflective roof access markings hold up well in the elements and should easily be expected to go for at least a year without becoming illegible or inconspicuous. The Task Force also considered that some railroads do not have facilities from which they can easily and safely observe the rooftops of their equipment, and agreed that inspecting roof access markings would be more safely conducted when the equipment is out of service at a maintenance facility. The Task Force recommended that FRA require emergency roof access markings and instructions to be inspected not less frequently than every 368 days, instead of the 184 days as proposed. FRA agrees with the Task Force's recommendation, considering the favorable maintenance experience cited and the potential costs involved. FRA believes that a yearly inspection of roof access markings and instructions is sufficient to ensure that they are in place, conspicuous, and legible.

*Subpart E—Specific Requirements for Tier II Passenger Equipment*

Section 238.437 [Reserved]

This section formerly contained the emergency communication requirements for Tier II passenger equipment. These requirements have been moved to new § 238.121 (''Emergency communication'') to be integrated with the new emergency communication system requirements for Tier I passenger equipment, as stated above. This is consistent with FRA's desire to prescribe, to the extent possible, the same emergency system requirements for all passenger trains, regardless of train speed. Section 238.437 is therefore being removed and reserved. Please see § 238.121 for a discussion of the emergency communication system requirements for Tier II passenger equipment.

Section 238.441 Emergency Roof Access

In issuing the Passenger Equipment Safety Standards, FRA required that Tier II passenger equipment have either a roof hatch or a clearly marked structural weak point in the roof to provide quick access for properly equipped emergency response personnel. *See* 64 FR 25689. FRA stated that the final rule did not contain such requirements for Tier I passenger equipment and that there was no consensus within the Passenger Equipment Safety Standards Working Group to do so. *See* 64 FR 25642. Nevertheless, FRA noted that it believed that APTA PRESS Task Force efforts would address requirements for Tier I passenger equipment and that FRA intended to reexamine the requirements of this section in a future rulemaking with a view to applying emergency roof access requirements to Tier I passenger equipment. *Id.*

As discussed above, in § 238.123 FRA is applying emergency roof access requirements to Tier I passenger equipment and making the requirements the same for new Tier I and Tier II passenger cars. In doing so, FRA is revising § 238.441, including the section heading, to reconcile the requirements of these sections and thereby limit the application of these separate requirements in § 238.441 to existing Tier II passenger cars and to any Tier II power car (whether existing or new). At the same time, FRA is increasing the required dimensions of emergency roof access locations for existing Tier II passenger equipment, and providing general marking and instruction requirements for such equipment. FRA believes that existing Tier II passenger equipment is in compliance with these requirements, as revised, and that these revisions more closely approximate the requirements for new passenger equipment. FRA notes that all existing Tier II passenger cars were built with the same design, thus once an emergency responder has learned of the location of the roof access point on one passenger car, the responder has learned it for all passenger cars. Given this and the fact that there are a limited number of existing Tier II equipment, FRA has decided to limit the applicability of certain provisions to new Tier II passenger cars and power cars only.

Paragraph (a). Specifically, paragraph (a) has been revised to limit its applicability to Tier II passenger cars and power cars both ordered prior to April 1, 2009 and placed in service for the first time prior to April 1, 2011. Paragraph (a) has also been modified to revise the dimensions of the required opening from 18 inches by 24 inches, to 24 inches by 26 inches to be consistent with the requirements for Tier I passenger equipment. In addition, paragraph (a) has been revised to require that each emergency roof access location be conspicuously marked, and that legible and understandable operating instructions be posted at or near each such location.

The fundamental differences between the requirements in § 238.123 for new passenger cars and those contained in revised paragraph (a) of § 238.441 for existing Tier II passenger cars and Tier II power cars are as follows: The number of required emergency roof access locations (two in § 238.123, and one in § 238.441), the marking requirements (''conspicuously marked with

retroreflective material of contrasting color'' in § 238.123, and ''conspicuously marked'' in § 238.441), and the specifications for their location (detailed specifications are contained in § 238.123, while more general requirements are in § 238.441). These differences reflect the consideration given to existing equipment built in compliance with § 238.441 of the 1999 final rule, and also recognize that a requirement for two emergency roof access locations on a Tier II power car would not be reasonable given that the only normally occupied area in such a car is the cab compartment, in which only one emergency roof access location can be placed.

Paragraph (b). Paragraph (b) has been revised to make clear that each Tier II passenger car ordered on or after April 1, 2009, or placed in service for the first time on or after April 1, 2011, is required to comply with the emergency roof access requirements specified in § 238.123. Section 238.123 subjects new Tier I and Tier II passenger cars to the same emergency roof access requirements, and this revision to paragraph (b) is intended to conform with that section's requirements.

As specified in paragraph (b), new Tier II passenger cars are required to comply with the standards contained in § 238.123, which were developed exclusively for passenger cars.

Paragraph (c). Paragraph (c) has been added to address new Tier II power cars. FRA believes that Tier II power cars—both new and existing—should continue to be subject to emergency roof access requirements, and that the requirements for emergency roof access in § 238.123 should generally apply to this equipment as well. However, as § 238.123 was developed specifically for passenger cars, its requirements simply cannot be referenced in their entirety for Tier II power cars. In particular, unlike the requirements of § 238.123, only one emergency roof access location is necessary for a power car. As a result, FRA has specifically limited the portions of § 238.123 that are applicable to new power cars. Paragraph (c) requires that each power car ordered on or after April 1, 2009, or placed in service for the first time on or after April 1, 2011, have a minimum of one emergency roof access location, with a minimum opening of 26 inches longitudinally by 24 inches laterally, and comply with the emergency roof access requirements specified in §§ 238.123(b), (d), and (e).

*Appendix A to Part 238—Schedule of Civil Penalties*

This appendix contains a schedule of civil penalties to be used in connection with this part. Because such penalty schedules are statements of agency policy, notice and comment are not required prior to their issuance. *See* 5 U.S.C. 553(b)(3)(A). Nevertheless, FRA invited comment on the proposed penalty schedule, but no comment was received.

FRA has amended the penalty schedule to reflect changes made to part 238. Specifically, FRA has added entries for new §§ 238.114, 238.121, and 238.123; removed and reserved the entry for § 238.437; revised the entry for § 238.441; revised footnote 1; and added footnote 2 to clarify the use of penalty codes in the penalty schedule.

## VI. Regulatory Impact and Notices

*A. Executive Order 12866 and DOT Regulatory Policies and Procedures*

This final rule has been evaluated in accordance with existing policies and procedures, and determined not to be significant under both Executive Order 12866 and DOT policies and procedures. *See* 44 FR 11034 (Feb. 26, 1979). FRA has prepared and placed in the docket a regulatory evaluation addressing the economic impact of this final rule. Document inspection and copying facilities are available at the Docket Management Facility, U.S. Department of Transportation, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590. Docket material is also available for inspection on the Internet at *http://www.regulations.gov.* Photocopies may also be obtained by submitting a written request to the FRA Docket Clerk at Office of Chief Counsel, Mail Stop 10, Federal Railroad Administration, 1200 New Jersey Avenue, SE., Washington, DC 20590; please refer to Docket No. FRA 2006–25273.

Certain of the requirements reflect current industry practice, or restate existing regulations, or both. As a result, in calculating the costs of this final rule, FRA has neither included the costs of those actions that would be performed voluntarily in the absence of a regulation, nor has FRA included the costs of those actions that would be required by an existing regulation.

As presented in the following table, FRA estimates that the present value (PV) of the total 20-year costs which the industry would be expected to incur to comply with the requirements in this final rule is $15.5 million:

20-YEAR PV COSTS INCURRED

| Description | 20-year PV total ($) |
|---|---|
| Costs: | |
| (238.113) Emergency Window Exits: | |
| —Installation of pull handles/gaskets in two intermediate level windows | $4,050 |
| —Replacement of instructions for window removal to ensure that potential hindrances are addressed | 10,800 |
| —Installation of pull handles/gaskets in four intermediate level windows | 1,440 |
| (238.114) Rescue Access Windows: | |
| —Installation of two windows per car | 163,880 |
| —Marking and instructions | 3,840 |
| (238.121) Emergency Communication: | |
| —Addition of second intercom transmission location | 213,675 |
| —Addition of outside speaker for public address system | 101,565 |
| (238.123) Emergency Roof Access. | |
| —Structural weak points—engineering redesign | 80,000 |
| —Structural weak points—additional materials | 117,250 |
| —Platform ladder | 1,700 |
| (238.303, 238.305, and 238.307) Exterior, Interior, and Periodic Inspection, Testing, and Maintenance | 14,808,086 |
| Total Costs | 15,506,286 |

If over the 20-year period covered by the regulatory evaluation the equivalent of 7.7 lives would be saved as a result of implementing the requirements (from a combination of fatalities prevented, and injuries avoided or minimized), the final rule would be cost-justified by the safety benefits alone. FRA believes it is reasonable to expect that the safety benefits would exceed the costs of the requirements. Although passenger railroads offer the traveling public one of the safest forms of transportation available, the potential for injuries and loss of life in certain situations is very high. Nevertheless, FRA cannot predict with reasonable confidence the actual numbers of lives that would be saved. The number and severity of each future passenger train accident or incident would determine the ultimate effectiveness of the requirements; these cannot be forecast with a level of precision that would allow us to predict the actual need for the measures in the rule. Yet, FRA believes that the requirements protect passengers and crew members against known safety concerns in a cost-effective manner. These safety concerns are discussed in

detail, above, in the preamble to this final rule.

In particular, as discussed in Section III.C., the requirement for an intercom system on Tier I passenger trains is intended to allow passengers to communicate to the crew a medical emergency, report a fire onboard the train, or provide notification of other emergency situations as quickly as may be necessary. In fact, some passenger lives may have already been saved at least in part due to the availability of an intercom system because fellow passengers were able to use the intercom to alert a crewmember that a passenger onboard their car was experiencing a medical emergency. This led the crew to call the dispatcher to arrange for prompt medical attention at a nearby station. FRA believes that over the next 20 years the availability of an intercom system to passengers may save the life of one or more passengers experiencing a medical emergency.

The availability of an intercom system to passengers may also save the life of one or more passengers in other emergency situations. For example, on December 7, 1993, a gunman opened fire onboard an LIRR commuter train traveling between New Hyde Park and Garden City, NY, killing 6 people and injuring 19 others before he was overpowered by passengers. No intercom system was available to the passengers, and the train crew was not aware of the situation until the train arrived at the next station where police happened to be present on the platform. The availability of an intercom system to passengers in such a situation could allow passengers to provide notification to the crew in a timely manner so that the crew could contact the appropriate authorities to obtain emergency assistance and take other necessary action. This may include providing a direct warning over the train's public address system both to passengers on the train as well as to passengers in the immediate vicinity of the train on the station platform. The final rule does require that Tier I passenger trains be equipped with public address systems.

Further, over the past 20 years, other accidents and incidents have occurred where, if they were to recur, the availability of the safety features required by this final rule might save lives or prevent or minimize injuries. For instance, 11 lives were lost in a February 16, 1996 collision between a Maryland Rail Commuter (MARC) train and an Amtrak passenger train in Silver Spring, Maryland. The collision breached a fuel tank of an Amtrak locomotive, spraying fuel into the lead vehicle of the MARC train, which erupted in fire. The fire and collision trapped a number of people in the lead vehicle. Having rescue access windows available to emergency responders on the scene of such a situation in the future might facilitate the rescue of one or more passengers.

Similar accidents and incidents have unique circumstances that ultimately determine their severity in terms of casualties, and actual future events cannot be predicted with certainty. Nonetheless, it is possible that over the next 20 years the safety features required by this final rule will preserve life in a single event in an amount that exceeds the entire estimated costs of the rule.

*B. Regulatory Flexibility Act and Executive Order 13272*

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) and Executive Order 13272 require a review of proposed and final rules to assess their impact on small entities. FRA has prepared and placed in the docket an Analysis of Impact on Small Entities (AISE) that assesses the small entity impact of this final rule. Document inspection and copying facilities are available at the Docket Management Facility, U.S. Department of Transportation, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590. Docket material is also available for inspection on the Internet at *http://www.regulations.gov.* Photocopies may also be obtained by submitting a written request to the FRA Docket Clerk at Office of Chief Counsel, Mail Stop 10, Federal Railroad Administration, 1200 New Jersey Avenue, SE., Washington, DC 20590; please refer to Docket No. FRA 2006–25273.

The AISE developed in connection with this final rule concludes that this rule will not have a significant economic impact on a substantial number of small entities. The principal entities impacted by the rule are governmental jurisdictions or transit authorities—none of which is small for purposes of the United States Small Business Administration (*i.e.*, no entity serves a locality with a population less than 50,000). These entities also receive Federal transportation funds. Although these entities are not small, the level of costs incurred by each entity should generally vary in proportion to either the size of the entity, or the extent to which the entity purchases newly manufactured passenger equipment, or both. Tourist, scenic, excursion, and historic passenger railroad operations are exempt from the new requirements in the rule, and, therefore, these smaller operations will not incur any costs.

The final rule does impact passenger car manufacturers. However, these entities are principally large international corporations that are not considered small entities. Some manufacturers and suppliers of emergency signage and communication systems may be impacted by the rule, and these may be small entities. Yet, FRA believes that any impact on these entities will neither be significant nor negative, to the extent that the demand for products and services that they provide actually increases.

Having made these determinations, FRA certifies that this final rule is not expected to have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act or Executive Order 13272.

*C. Paperwork Reduction Act*

The information collection requirements in this final rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 *et seq.* The sections that contain the new information collection requirements and the estimated time to fulfill each requirement are as follows:

| CFR section—49 CFR | Respondent universe (railroads) | Total annual responses | Average time per response | Total annual burden hours (in minutes) | Total annual burden cost |
|---|---|---|---|---|---|
| 238.113—Emergency Window Exits: Markings and Instructions. | 22 | 662 markings ..... | 60/90/120 | 964 | $0 (Included in Reg. Eval.). |
| 238.114—Rescue Access Windows: Markings and Instructions. | 22 | 1,092 markings ..... | 45 | 819 | $0 (Included in Reg. Eval.). |
| 238.121—Emergency Communication—Intercom System: Markings and Instructions. | 22 | 116 markings ..... | 5 | 10 | $410. |

| CFR section—49 CFR | Respondent universe (railroads) | Total annual responses | Average time per response | Total annual burden hours (in minutes) | Total annual burden cost |
|---|---|---|---|---|---|
| 238.123—Emergency Roof Access: Markings and Instructions. | 22 | 232 marked locations | 30 | 116 | $0 (Included in Reg. Eval.). |
| 238.303—Exterior Calendar Day Mechanical Inspection of Passenger Equipment: | | | | | |
| —Repair/Replacement of Non-Complying Rescue Access Markings. | 22 | 150 replacement markings. | 20 | 50 | $2,050. |
| —Records of Non-Complying Markings | 22 | 150 records ..... | 2 | 5 | $205. |
| 238.305—Interior Calendar Day Mechanical Inspection of Passenger Cars: | | | | | |
| —Non-Complying Conditions of End Doors and Side Doors of Passenger Cars. | 22 | 260 notifications + 260 notices. | 1 | 9 | $369. |
| —Written Notification to Train Crew of Inoperative/Non-Functioning Public Address and Intercom Systems. | 22 | 300 notifications ..... | 1 | 5 | $205. |
| —Records of Non-Compliance with Requirements of Section 238.305(d)(3). | 22 | 300 records ..... | 2 | 10 | $410. |
| 238.307—Periodic Mechanical Inspection of Passenger Cars and Unpowered Vehicles Used in Passenger Trains: Replacement of Non-complying Emergency Roof Access Markings and Instructions. | 22 | 32 replacement markings/instructions. | 20 | 11 | $451. |

All estimates include the time for reviewing instructions, searching existing data sources, gathering or maintaining the needed data, and reviewing the information. For information or a copy of the paperwork package submitted to OMB, contact Mr. Robert Brogan, Information Clearance Officer, at (202) 493–6292 or via e-mail at *robert.brogan@dot.gov;* or contact Ms. Gina Christodoulou at (202) 493–6139 or via e-mail at *gina.christodoulou@dot.gov.*

OMB is required to make a decision concerning the collection of information requirements contained in this final rule between 30 and 60 days after publication of this final rule in the **Federal Register**. Therefore, a comment to OMB is best assured of having its full effect if OMB receives it within 30 days of publication. Send any comments to: The Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, *Attn:* FRA OMB Desk Officer; or via e-mail at *oira_submissions@omb.eop.gov.* The OMB control number, when assigned, will be announced by separate notice in the **Federal Register**.

FRA is not authorized to impose a penalty on persons for violating information collection requirements which do not display a current OMB control number, if required. FRA intends to obtain current OMB control numbers for any new information collection requirements resulting from this rulemaking action prior to the effective date of the final rule.

*D. Federalism Implications*

FRA has analyzed this final rule in accordance with the principles and criteria contained in Executive Order 13132, issued on August 4, 1999, which directs Federal agencies to exercise great care in establishing policies that have federalism implications. *See* 64 FR 43255. This final rule will not have a substantial direct effect on the States, on the relationship between the National government and the States, or on the distribution of power and responsibilities among various levels of government.

One of the fundamental Federalism principles, as stated in Section 2(a) of Executive Order 13132, is that ''Federalism is rooted in the belief that issues that are not national in scope or significance are most appropriately addressed by the level of government closest to the people.'' Congress expressed its intent that there be national uniformity of regulation concerning railroad safety matters when it enacted 49 U.S.C. 20106, which provides that all regulations prescribed by the Secretary of Transportation with respect to railroad safety matters and the Secretary of Homeland Security with respect to railroad security matters preempt any State law, regulation, or order covering the same subject matter, except a provision necessary to eliminate or reduce an essentially local safety or security hazard that is not incompatible with a Federal law, regulation, or order and that does not unreasonably burden interstate commerce. This intent was expressed even more specifically in 49 U.S.C. 20133, which mandated that the Secretary of Transportation prescribe ''regulations establishing minimum standards for the safety of cars used by railroad carriers to transport passengers'' and consider such matters as ''emergency response procedures and equipment'' before prescribing such regulations. This final rule is intended to add to and enhance the regulations issued pursuant to 49 U.S.C. 20133.

FRA notes that the above factors have been considered throughout the development of this final rule both internally and through consultation within the RSAC forum, as described in Section II of this preamble. The full RSAC, which, prior to the publication of the NPRM, reached consensus on the proposed rule text and recommended the proposal to FRA, has as permanent voting members two organizations representing State and local interests: AASHTO and ASRSM. As such, these State organizations concurred with the proposed requirements, which differ in only limited respects from the requirements contained in this final rule. The RSAC regularly provides recommendations to the FRA Administrator for solutions to regulatory issues that reflect significant input from its State members. To date, FRA has received no indication of concerns about the Federalism implications of this rulemaking from these representatives or from any other representative.

For the foregoing reasons, FRA believes that this final rule is in accordance with the principles and criteria contained in Executive Order 13132.

*E. Environmental Impact*

FRA has evaluated this final rule in accordance with its ''Procedures for Considering Environmental Impacts'' (FRA's Procedures) (*see* 64 FR 28545 (May 26, 1999)) as required by the National Environmental Policy Act (*see* 42 U.S.C. 4321 *et seq.*), other environmental statutes, Executive Orders, and related regulatory requirements. FRA has determined that this final rule is not a major FRA action (requiring the preparation of an environmental impact statement or environmental assessment) because it is categorically excluded from detailed environmental review pursuant to section 4(c)(20) of FRA's Procedures. *See* 64 FR 28547 (May 26, 1999). In accordance with section 4(c) and (e) of FRA's Procedures, the agency has further concluded that no extraordinary circumstances exist with respect to this regulation that might trigger the need for a more detailed environmental review. As a result, FRA finds that this final rule is not a major Federal action significantly affecting the quality of the human environment.

*F. Unfunded Mandates Reform Act of 1995*

Pursuant to Section 201 of the Unfunded Mandates Reform Act of 1995 (Pub. L. No. 104–4, 2 U.S.C. 1531), each Federal agency ''shall, unless otherwise prohibited by law, assess the effects of Federal regulatory actions on State, local, and tribal governments, and the private sector (other than to the extent that such regulations incorporate requirements specifically set forth in law).'' Section 202 of the Act (2 U.S.C. 1532) further requires that ''before promulgating any general notice of proposed rulemaking that is likely to result in the promulgation of any rule that includes any Federal mandate that may result in expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of $100,000,000 or more (adjusted annually for inflation) in any 1 year, and before promulgating any final rule for which a general notice of proposed rulemaking was published, the agency shall prepare a written statement'' detailing the effect on State, local, and tribal governments and the private sector. The final rule will not result in the expenditure, in the aggregate, of $100,000,000 or more (as adjusted annually for inflation) in any one year, and thus preparation of such a statement is not required.

*G. Energy Impact*

Executive Order 13211 requires Federal agencies to prepare a Statement of Energy Effects for any ''significant energy action.'' *See* 66 FR 28355 (May 22, 2001). Under the Executive Order, a ''significant energy action'' is defined as any action by an agency (normally published in the **Federal Register**) that promulgates or is expected to lead to the promulgation of a final rule or regulation, including notices of inquiry, advance notices of proposed rulemaking, and notices of proposed rulemaking: (1)(i) That is a significant regulatory action under Executive Order 12866 or any successor order, and (ii) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (2) that is designated by the Administrator of the Office of Information and Regulatory Affairs as a significant energy action. FRA has evaluated this final rule in accordance with Executive Order 13211. FRA has determined that this final rule is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Consequently, FRA has determined that this regulatory action is not a ''significant energy action'' within the meaning of Executive Order 13211.

*H. Trade Impact*

The Trade Agreements Act of 1979 (Pub. L. 96–39, 19 U.S.C. 2501 *et seq.*) prohibits Federal agencies from engaging in any standards or related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards.

FRA has assessed the potential effect of this final rule on foreign commerce and believes that its requirements are consistent with the Trade Agreements Act. The requirements imposed are safety standards, which, as noted, are not considered unnecessary obstacles to trade. Moreover, FRA has sought, to the extent practicable, to state the requirements in terms of the performance desired, rather than in more narrow terms restricted to a particular design, so as not to limit different, compliant designs by any manufacturer—foreign or domestic.

For related discussion on the international effects of part 238, please see the preamble to the May 12, 1999 Passenger Equipment Safety Standards final rule on the topic of ''United States international treaty obligations.'' *See* 64 FR 25545.

*I. Privacy Act*

Anyone is able to search the electronic form of all comments or petitions for reconsideration received into any of FRA's dockets by the name of the individual submitting the comment or petition for reconsideration (or signing the comment or petition for reconsideration, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477–78), or you may visit *http://DocketsInfo.dot.gov.*

**List of Subjects**

*49 CFR Part 223*

Glazing standards, Penalties, Railroad safety, Reporting and recordkeeping requirements.

*49 CFR Part 238*

Incorporation by reference, Passenger equipment, Penalties, Railroad safety, Reporting and recordkeeping requirements.

**The Rule**

■ For the reasons discussed in the preamble, parts 223 and 238 of chapter II, subtitle B of title 49, Code of Federal Regulations are amended as follows:

## PART 223—[AMENDED]

■ 1. The authority citation for part 223 is revised to read as follows:

**Authority:** 49 U.S.C. 20102–20103, 20133, 20701–20702, 21301–21302, 21304; 28 U.S.C. 2461, note; and 49 CFR 1.49.

### Subpart A—General

■ 2. Section 223.5 is amended by removing the definitions of ''Emergency responder'' and ''Passenger train service''; and by revising the definition of ''Emergency window'' to read as follows:

**§ 223.5 Definitions.**

* * * * *

*Emergency window* means the segment of a side-facing glazing panel that has been designed to permit rapid and easy removal from inside a passenger car in an emergency situation.

* * * * *

### Subpart B—Specific Requirements

■ 3. Section 223.9 is amended by removing paragraph (d); and by revising paragraph (c) to read as follows:

**§ 223.9 Requirements for new or rebuilt equipment.**

* * * * *

(c) Passenger cars, including self-propelled passenger cars, built or rebuilt after June 30, 1980, must be equipped with certified glazing in all windows and at least four emergency windows.

■ 4. Appendix B to part 223 is amended by revising the entry for section 223.9; and by revising footnote 1 to read as follows:

**Appendix B to Part 223—Schedule of Civil Penalties [1]**

| Section | Violation | Willful violation |
|---|---|---|
| 223.9 New or rebuilt equipment: | | |
| (a) Locomotives | $2,500 | $5,000 |
| (b) Cabooses | 2,500 | 5,000 |
| (c) Passenger cars | 2,500 | 5,000 |

* * * * *

## PART 238—[AMENDED]

■ 5. The authority citation for part 238 continues to read as follows:

**Authority:** 49 U.S.C. 20103, 20107, 20133, 20141, 20302–20303, 20306, 20701–20702, 21301–21302, 21304; 28 U.S.C. 2461, note; and 49 CFR 1.49.

## Subpart A—General

■ 6. Section 238.5 is amended by revising the definition of ''Emergency window'' and by adding the definitions of ''Dual-function window,'' ''Emergency responder,'' ''Intercom,'' ''Intercom system,'' ''Intermediate level,'' ''Main level,'' ''PA System,'' ''Passenger compartment,'' ''Rescue access window,'' ''Retroreflective material,'' and ''Seating area'' to read as follows:

**§ 238.5 Definitions.**

* * * * *

*Dual-function window* means a window that is intended to serve as both an emergency window exit and a rescue access window and that meets the applicable requirements set forth in both §§ 238.113 and 238.114.

* * * * *

*Emergency responder* means a member of a police or fire department, or other organization involved with public safety charged with providing or coordinating emergency services, who responds to a passenger train emergency.

*Emergency window* means the segment of a side-facing glazing panel that has been designed to permit rapid and easy removal from inside a passenger car in an emergency situation.

* * * * *

*Intercom* means a device through which voice communication is transmitted and received.

*Intercom system* means a two-way, voice communication system.

* * * * *

*Intermediate level* means a level of a multi-level passenger car that is used for passenger seating and is normally located between two main levels. An intermediate level normally contains two, separate seating areas, one at each end of the car, and is normally connected to each main level by stairs.

* * * * *

*Main level* means a level of a passenger car that contains a passenger compartment whose length is equal to or greater than half the length of the car.

* * * * *

*PA system* (or *public address system*) means a one-way, voice communication system.

* * * * *

*Passenger compartment* means an area of a passenger car that consists of a seating area and any vestibule that is connected to the seating area by an open passageway.

* * * * *

*Rescue access window* means a side-facing exterior window intended for use by emergency responders to gain access to passengers in an emergency situation.

* * * * *

*Retroreflective material* means a material that is capable of reflecting light rays back to the light source and that conforms to the specifications for Type I Sheeting as specified in ASTM International Standard D 4956–07, ''Standard Specification for Retroreflective Sheeting for Traffic Control.'' The Director of the Federal Register approves the incorporation by reference of this standard in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may obtain a copy of the incorporated standard from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428–2959. You may inspect a copy of the incorporated standard at the Federal Railroad Administration, Docket Clerk, 1200 New Jersey Avenue, SE., Washington, DC, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to *http://www.archives.gov/federal-register/cfr/ibr-locations.html.*

* * * * *

*Seating area* means an area of a passenger car that normally contains passenger seating.

* * * * *

■ 7. Section 238.17 is amended by revising the introductory text of paragraphs (b) and (c) to read as follows:

**§ 238.17 Movement of passenger equipment with other than power brake defects.**

* * * * *

(b) *Limitations on movement of passenger equipment containing defects found at time of calendar day inspection.* Except as provided in §§ 238.303(e)(15), (e)(17) and (e)(18), 238.305(c) and (d), and 238.307(c)(1), passenger equipment containing a condition not in conformity with this part at the time of its calendar day mechanical inspection may be moved from that location for repair if all of the following conditions are satisfied:

* * * * *

(c) *Limitations on movement of passenger equipment that develops defects en route.* Except as provided in §§ 238.303(e)(15), (e)(17) and (e)(18), 238.305(c), 238.307(c)(1), and 238.503(f), passenger equipment that develops en route to its destination,

[1] A penalty may be assessed against an individual only for a willful violation. The Administrator reserves the right to assess a penalty of up to $27,000 for any violation where circumstances warrant. See 49 U.S.C. 21301, 21304, and 49 CFR part 209, appendix A. If more than one item is listed as a type of violation of a given section, each item is also designated by a ''penalty code,'' which is used to facilitate assessment of civil penalties, and which may or may not correspond to any subsection designation(s). For convenience, penalty citations will cite the CFR section and the penalty code, if any. FRA reserves the right, should litigation become necessary, to substitute in its complaint the CFR citation in place of the combined CFR and penalty code citation, should they differ.

after its calendar day mechanical inspection is performed and before its next calendar day mechanical inspection is performed, any condition not in compliance with this part, other than a power brake defect, may be moved only if the railroad complies with all of the following requirements or, if applicable, the specified requirements in paragraph (e) of this section:

* * * * *

## Subpart B—Safety Planning and General Requirements

■ 8. Section 238.113 is revised to read as follows:

### § 238.113 Emergency window exits.

(a) Number and location. Except as provided in paragraph (a)(3) of this section, the following requirements in this paragraph (a) apply on or after April 1, 2008—

(1) *Single-level passenger cars.* Each single-level passenger car shall have a minimum of four emergency window exits. At least one emergency window exit shall be located in each side of each end (half) of the car, in a staggered configuration where practical. (*See* Figure 1 to this subpart; *see also* Figures 1b and 1c to this subpart.)

(2) *Multi-level passenger cars—main levels.* Each main level in a multi-level passenger car is subject to the same requirements specified for single-level passenger cars in paragraph (a)(1) of this section.

(3) *Multi-level passenger cars—levels with seating areas other than main levels.*

(i) Except as provided in paragraphs (a)(3)(ii) and (iii) of this section, on or after August 1, 2009, any level other than a main level used for passenger seating in a multi-level passenger car, such as an intermediate level, shall have a minimum of two emergency window exits in each seating area. The emergency window exits shall be accessible to passengers in the seating area without requiring movement through an interior door or to another level of the car. At least one emergency window exit shall be located in each side of the seating area. An emergency window exit may be located within an exterior side door in the passenger compartment if it is not practical to place the window exit in the side of the seating area. (*See* Figures 2 and 2a to this subpart.)

(ii) Only one emergency window exit is required in a seating area in a passenger compartment if:

(A) It is not practical to place an emergency window exit in a side of the passenger compartment due to the need to provide accessible accommodations under the Americans with Disabilities Act of 1990;

(B) There are no more than four seats in the seating area; and

(C) A suitable, alternate arrangement for emergency egress is provided.

(iii) For passenger cars ordered prior to April 1, 2009, and placed in service prior to April 1, 2011, only one emergency window exit is required in a seating area in a passenger compartment if—

(A) It is not practicable to place a window exit in a side of the passenger compartment (due to the presence of a structure such as a bathroom, electrical locker, or kitchen); and

(B) There are no more than eight seats in the seating area.

(4) *Cars with a sleeping compartment or similar private compartment.* Each level of a passenger car with a sleeping compartment or a similar private compartment intended to be occupied by a passenger or train crewmember shall have at least one emergency window exit in each such compartment. For purposes of this paragraph (a)(4), a bathroom, kitchen, or locomotive cab is not considered a ''compartment.''

(b) *Ease of operability.* On or after November 8, 1999, each emergency window exit shall be designed to permit rapid and easy removal from the inside of the car during an emergency situation without requiring the use of a tool or other implement.

(c) *Dimensions.* Except as provided in paragraphs (c)(1) and (c)(2) of this section, each emergency window exit in a passenger car, including a sleeping car, ordered on or after September 8, 2000, or placed in service for the first time on or after September 9, 2002, shall have an unobstructed opening with minimum dimensions of 26 inches horizontally by 24 inches vertically. A seatback is not an obstruction if it can be moved away from the window opening without using a tool or other implement.

(1) *Emergency window exits in exterior side doors.* An emergency window exit located within an exterior side door, in accordance with the requirements of paragraph (a)(3)(i) of this section, may have an unobstructed opening with minimum dimensions of 24 inches horizontally by 26 inches vertically.

(2) *Additional emergency window exits.* Any emergency window exit in addition to the minimum number required by paragraph (a) of this section that has been designated for use by the railroad need not comply with the minimum dimension requirements in paragraph (c) of this section, but must otherwise comply with all requirements in this part applicable to emergency window exits.

(d) *Marking and instructions.* (1) Each emergency window exit shall be conspicuously and legibly marked with luminescent material on the inside of each car to facilitate passenger egress.

(2) Legible and understandable operating instructions, including instructions for removing the window, shall be posted at or near each such window exit. If window removal may be hindered by the presence of a seatback, headrest, luggage rack, or other fixture, the instructions shall state the method for allowing rapid and easy removal of the window, taking into account the fixture(s), and this portion of the instructions may be in written or pictorial format.

■ 9. Section 238.114 is added to read as follows:

### § 238.114 Rescue access windows.

(a) *Number and location.* Except as provided in paragraph (a)(1)(ii) of this section, the following requirements in this paragraph (a) apply on or after April 1, 2008—

(1) *Single-level passenger cars.* Except as provided in this paragraph (a)(1) and in paragraphs (a)(1)(i), (a)(1)(ii), and (a)(5) of this section, each single-level passenger car shall have a minimum of two rescue access windows. At least one rescue access window shall be located in each side of the car entirely within 15 feet of the car's centerline, or entirely within 7½ feet of the centerline if the car does not exceed 45 feet in length. (*See* Figure 1a to this subpart; *see also* Figures 1b and 1c to this subpart.) If the seating level is obstructed by an interior door or otherwise partitioned into separate seating areas, each separate seating area shall have a minimum of one rescue access window in each side of the seating area, located as near to the center of the car as practical.

(i) For a single-level passenger car ordered prior to April 1, 2009, and placed in service prior to April 1, 2011, rescue access windows may be located farther than the above prescribed distances from the car's centerline, or located within exterior side doors, or both, if at least one rescue access window is located within each side of each end (half) of the same passenger compartment.

(ii) For a single-level passenger car ordered prior to September 8, 2000, and placed in service prior to September 9, 2002, the requirements of paragraph (a)(1) apply on or after August 1, 2009 if the car has at least two exterior side doors (or door leaves), each with a

manual override device, and such doors (or door leaves) are located one on each side of the car, in opposite ends (halves) of the car (*i.e.*, in diagonally-opposite quadrants). The manual override device shall be—

(A) Capable of releasing the door (or door leaf) to permit it to be opened without power from outside the car;

(B) Located adjacent to the door (or door leaf) that it controls; and

(C) Designed and maintained so that a person can access the override device from outside the car without using a tool or other implement.

(2) *Multi-level passenger cars—main levels.* Each main level in a multi-level passenger car is subject to the same requirements specified for single-level passenger cars in paragraph (a)(1) of this section, with the exception of paragraph (a)(1)(ii), which is not applicable.

(3) *Multi-level passenger cars—levels with seating areas other than main levels.* (i) Except as provided in paragraphs (a)(3)(ii) and (a)(3)(iii) of this section, any level other than a main level used for passenger seating in a multi-level passenger car, such as an intermediate level, shall have a minimum of two rescue access windows in each seating area. The rescue access windows shall permit emergency responders to gain access to passengers in the seating area without requiring movement through an interior door or to another level of the car. At least one rescue access window shall be located in each side of the seating area. A rescue access window may be located within an exterior side door in the passenger compartment if it is not practical to place the access window in the side of the seating area. (*See* Figures 2 and 2a of this subpart.)

(ii) Only one rescue access window is required in a seating area in a passenger compartment if—

(A) It is not practical to place a rescue access window in a side of the passenger compartment due to the need to provide accessible accommodations under the Americans with Disabilities Act of 1990;

(B) There are no more than four seats in the seating area; and

(C) A suitable, alternate arrangement for rescue access is provided.

(iii) For passenger cars ordered prior to April 1, 2009, and placed in service prior to April 1, 2011, only one rescue access window is required in a seating area in a passenger compartment if—

(A) It is not practicable to place an access window in a side of the passenger compartment (due to the presence of a structure such as a bathroom, electrical locker, or kitchen); and

(B) There are no more than eight seats in the seating area.

(4) *Cars with a sleeping compartment or similar private compartment.* Each level of a passenger car with a sleeping compartment or a similar private compartment intended to be occupied by a passenger or train crewmember shall have a minimum of one rescue access window in each such compartment. For purposes of this paragraph, a bathroom, kitchen, or locomotive cab is not considered a ''compartment.''

(5) *Dual-function windows.* If, on any level of a passenger car, the emergency window exits installed to meet the minimum requirements of § 238.113 are also intended to function as rescue access windows, the minimum requirements for the number and location of rescue access windows in paragraphs (a)(1) through (a)(4) of this section are also met for that level.

(b) *Ease of operability.* On or after April 1, 2008, each rescue access window must be capable of being removed without unreasonable delay by an emergency responder using either—

(1) A provided external mechanism; or

(2) Tools or implements that are commonly available to the responder in a passenger train emergency.

(c) *Dimensions.* Each rescue access window in a passenger car, including a sleeping car, ordered on or after April 1, 2009, or placed in service for the first time on or after April 1, 2011, shall have an unobstructed opening with minimum dimensions of 26 inches horizontally by 24 inches vertically. A rescue access window located within an exterior side door, in accordance with the requirements of paragraph (a)(3)(i) of this section, may have an unobstructed opening with minimum dimensions of 24 inches horizontally by 26 inches vertically. A seatback is not an obstruction if it can be moved away from the window opening without using a tool or other implement.

(d) *Marking and instructions.* Each rescue access window shall be marked with retroreflective material. A unique and easily recognizable symbol, sign, or other conspicuous marking shall also be used to identify each such window. Legible and understandable window-access instructions, including instructions for removing the window, shall be posted at or near each rescue access window.

■ 10. Add new § 238.121 to read as follows:

**§ 238.121 Emergency communication.**

(a) *PA system (public address system).* (1) *Existing Tier I passenger cars.* On or after January 1, 2012, each Tier I passenger car shall be equipped with a PA system that provides a means for a train crewmember to communicate by voice to passengers of his or her train in an emergency situation.

(2) *New Tier I and all Tier II passenger cars.* Each Tier I passenger car ordered on or after April 1, 2008, or placed in service for the first time April 1, 2010, and all Tier II passenger cars shall be equipped with a PA system that provides a means for a train crewmember to communicate by voice to passengers of his or her train in an emergency situation. The PA system shall also provide a means for a train crewmember to communicate by voice in an emergency situation to persons in the immediate vicinity of his or her train (*e.g.*, persons on the station platform). The PA system may be part of the same system as the intercom system.

(b) *Intercom system.* (1) *New Tier I and all Tier II passenger cars.* Each Tier I passenger car ordered on or after April 1, 2008, or placed in service for the first time on or after April 1, 2010, and all Tier II passenger cars shall be equipped with an intercom system that provides a means for passengers and crewmembers to communicate by voice with each other in an emergency situation. Except as further specified, at least one intercom that is accessible to passengers without using a tool or other implement shall be located in each end (half) of each car. If any passenger car does not exceed 45 feet in length, or if a Tier II passenger car was ordered prior to May 12, 1999, only one such intercom is required. The intercom system may be part of the same system as the PA system.

(2) *Marking and instructions.* The following requirements apply to each Tier I passenger car on or after April 1, 2010 and to all Tier II passenger cars:

(i) The location of each intercom intended for passenger use shall be conspicuously marked with luminescent material; and

(ii) Legible and understandable operating instructions shall be posted at or near each such intercom.

(c) *Back-up power.* PA and intercom systems shall have a back-up power system capable of—

(1) Operating in all equipment orientations within 45 degrees of vertical;

(2) Operating after the initial shock of a collision or derailment resulting in the following individually applied accelerations:

(i) Longitudinal: 8g;

(ii) Lateral: 4g; and

(iii) Vertical: 4g; and

(3) Powering each system to allow intermittent emergency communication for a minimum period of 90 minutes. Intermittent communication shall be considered equivalent to continuous communication during the last 15 minutes of the 90-minute minimum period.

■ 11. Section 238.123 is added to read as follows:

**§ 238.123 Emergency roof access.**

Except as provided in § 238.441 of this chapter—

(a) *Number and dimensions.* Each passenger car ordered on or after April 1, 2009, or placed in service for the first time on or after April 1, 2011, shall have a minimum of two emergency roof access locations, each with a minimum opening of 26 inches longitudinally (*i.e.*, parallel to the longitudinal axis of the car) by 24 inches laterally.

(b) *Means of access.* Emergency roof access shall be provided by means of a hatch, or a conspicuously marked structural weak point in the roof for access by properly equipped emergency response personnel.

(c) *Location.* Emergency roof access locations shall be situated as practical so that when a car is on its side—

(1) One emergency access location is wholly within each half of the roof as divided top from bottom; and

(2) One emergency access location is wholly within each half of the roof as divided left from right. (*See* Figure 3 to this subpart.)

(d) *Obstructions.* The ceiling space below each emergency roof access location shall be free from wire, cabling, conduit, and piping. This space shall also be free of any rigid secondary structure (*e.g.*, a diffuser or diffuser support, lighting back fixture, mounted PA equipment, or luggage rack) where practicable. If emergency roof access is provided by means of a hatch, it shall be possible to push interior panels or liners out of their retention devices and into the interior of the vehicle after removing the hatch. If emergency roof access is provided by means of a structural weak point, it shall be permissible to cut through interior panels, liners, or other non-rigid secondary structures after making the cutout hole in the roof, provided any such additional cutting necessary to access the interior of the vehicle permits a minimum opening of the dimensions specified in paragraph (a) to be maintained.

(e) *Marking and instructions.* Each emergency roof access location shall be conspicuously marked with retroreflective material of contrasting color. As further specified, legible and understandable instructions shall be posted at or near each such location. If emergency roof access is provided by means of a structural weak point—

(1) The retroreflective material shall conspicuously mark the line along which the roof skin shall be cut; and

(2) A sign plate with a retroreflective border shall also state as follows:

**CAUTION—DO NOT USE FLAME CUTTING DEVICES**

**CAUTION—WARN PASSENGERS BEFORE CUTTING**

**CUT ALONG DASHED LINE TO GAIN ACCESS**

**ROOF CONSTRUCTION—[STATE RELEVANT DETAILS]**

■ 12. Subpart B to part 238 is amended by adding Figures 1, 1a, 1b, 1c, 2, 2a, 2b, and 3 to read as follows:

Sec.

Figure 1 to Subpart B of Part 238—Example of Location and Staggering of Emergency Window Exits—§ 238.113

Figure 1A to Subpart B of Part 238—Example of Location of Rescue Access Windows—§ 238.114

Figure 1B to Subpart B of Part 238—Example of Location and Staggering of Emergency Window Exits and Location of Rescue Access Windows—§§ 238.113 and 238.114

Figure 1C to Subpart B of Part 238—Example of a Passenger Compartment Including a Vestibule Connected by an Open Passageway and Excluding a Vestibule Separated by an Interior Door—§§ 238.113 and 238.114

Figure 2 to Subpart B of Part 238—Example of a Multi-Level Car Complying with Window Location and Staggering Requirements—§§ 238.113 and 238.114

Figure 2A to Subpart B of Part 238—Example of an Intermediate Level Seating Area of a Multi-Level Car Complying With Window Location Requirements—§§ 238.113 and 238.114

Figure 2B to Subpart B of Part 238—Example of an Intermediate Level Seating Area of a Multi-Level Car Complying With Window Location Requirements—§§ 238.113 and 238.114

Figure 3 to Subpart B of Part 238—Example of Location and Marking of Structural Weak Points on Roof of Passenger Car—§ 238.123

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**Figure 1 to Subpart B of Part 238—Example of Location and Staggering of Emergency Window Exits—§ 238.113**

**Top and Side View Depictions of a Single-Level Passenger Car**

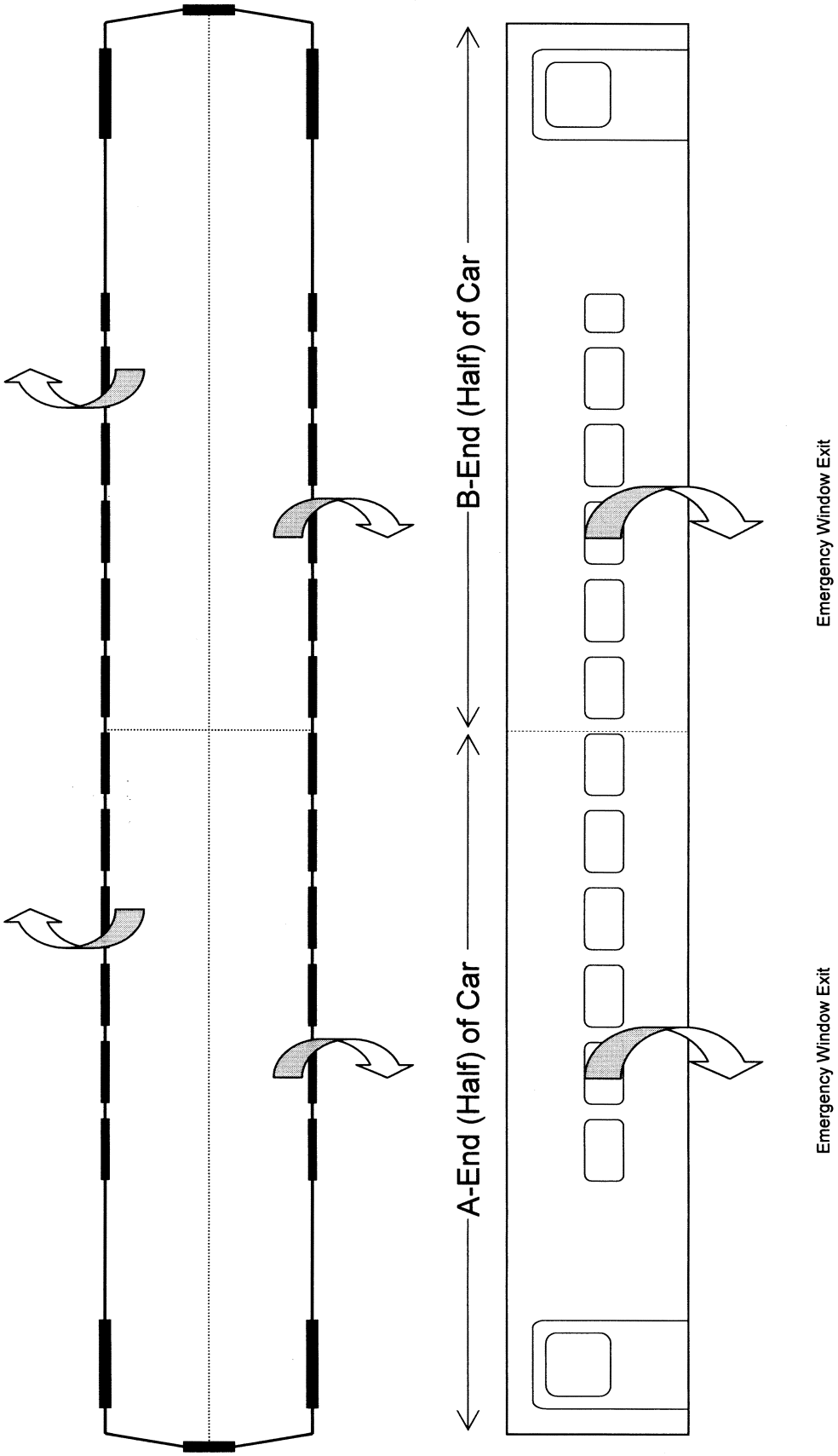


**Figure 1a to Subpart B of Part 238—Example of Location of Rescue Access Windows—§ 238.114**

**Top and Side View Depictions of a Single-Level Passenger Car**

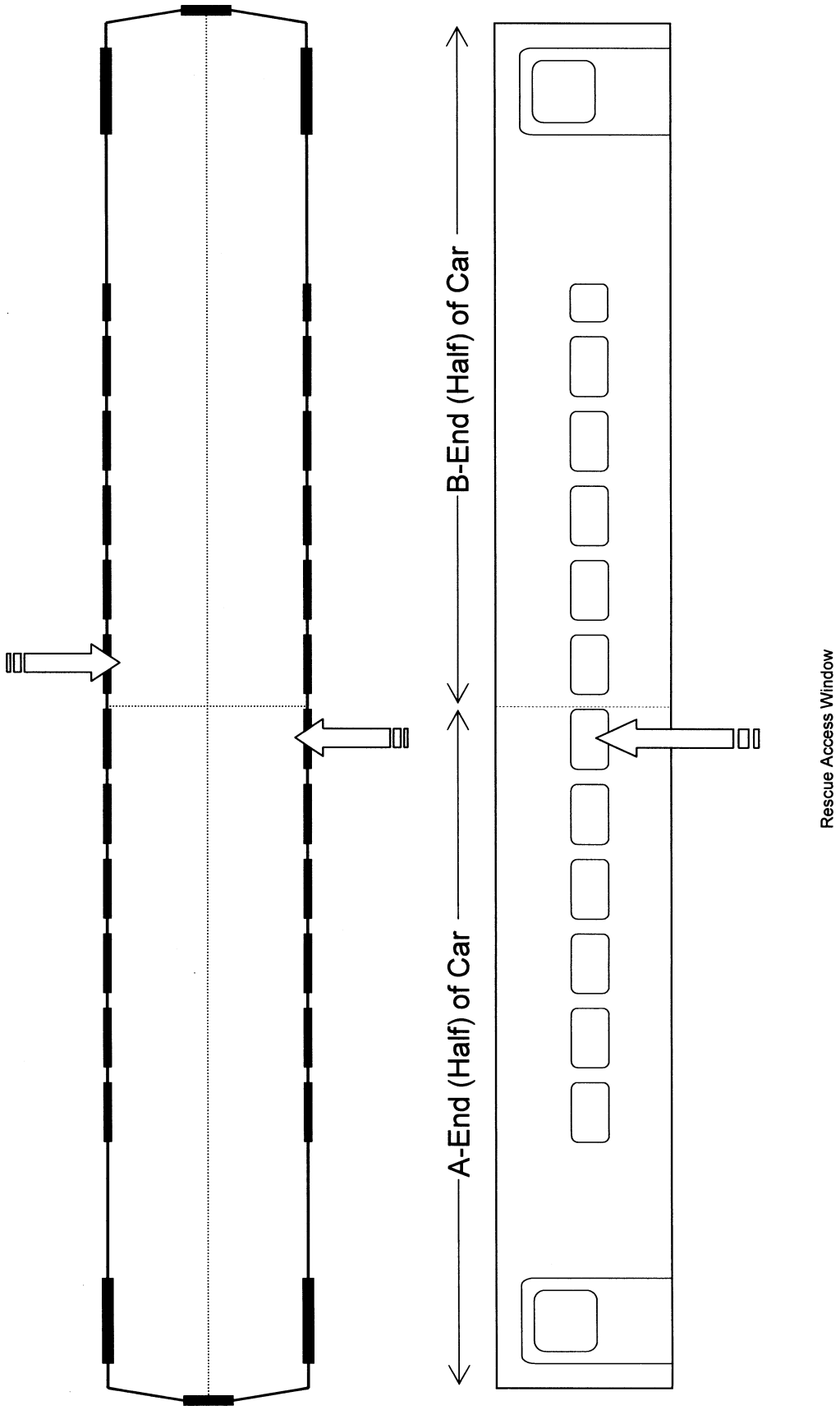


**Figure 1b to Subpart B of Part 238—Example of Location and Staggering of Emergency Window Exits and Location of Rescue Access Windows—§§ 238.113 and 238.114**

**Top and Side View Depictions of a Single-Level Passenger Car**

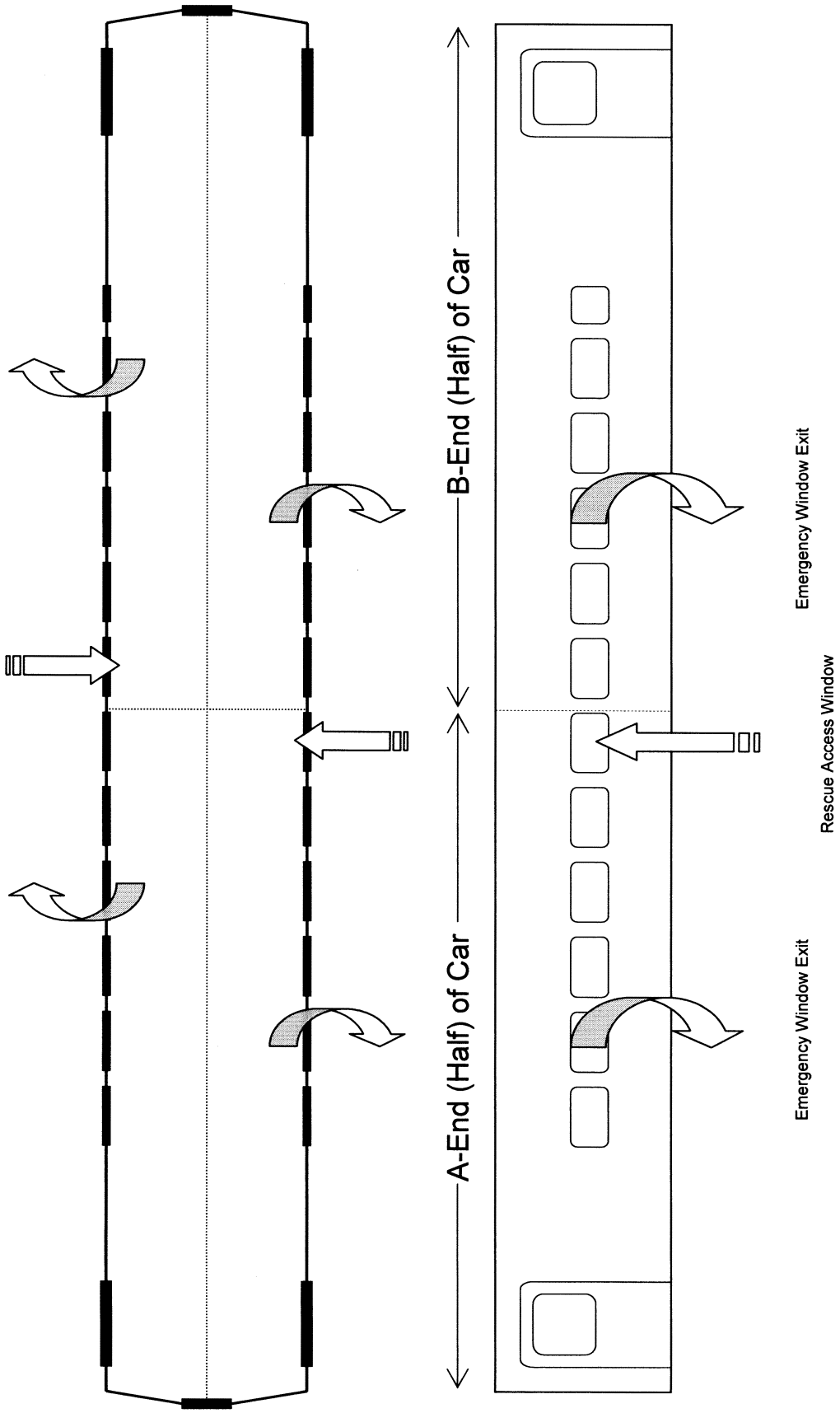


**Figure 1c to Subpart B of Part 238—Example of a Passenger Compartment Including a Vestibule Connected by an Open Passageway and Excluding a Vestibule Separated by an Interior Door—§§ 238.113 and 238.114**

**Top and Side View Depictions of a Single-Level Passenger Car**

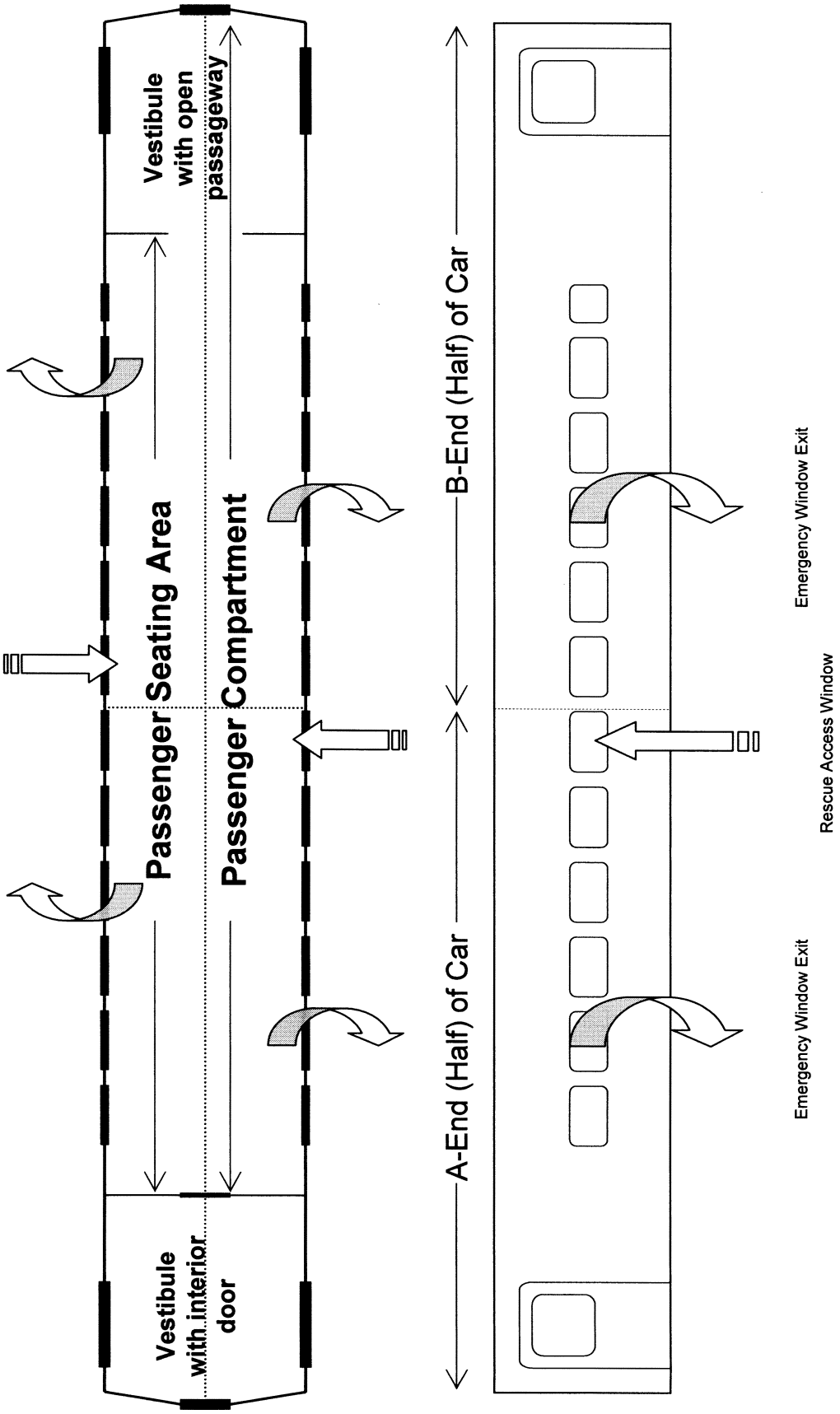
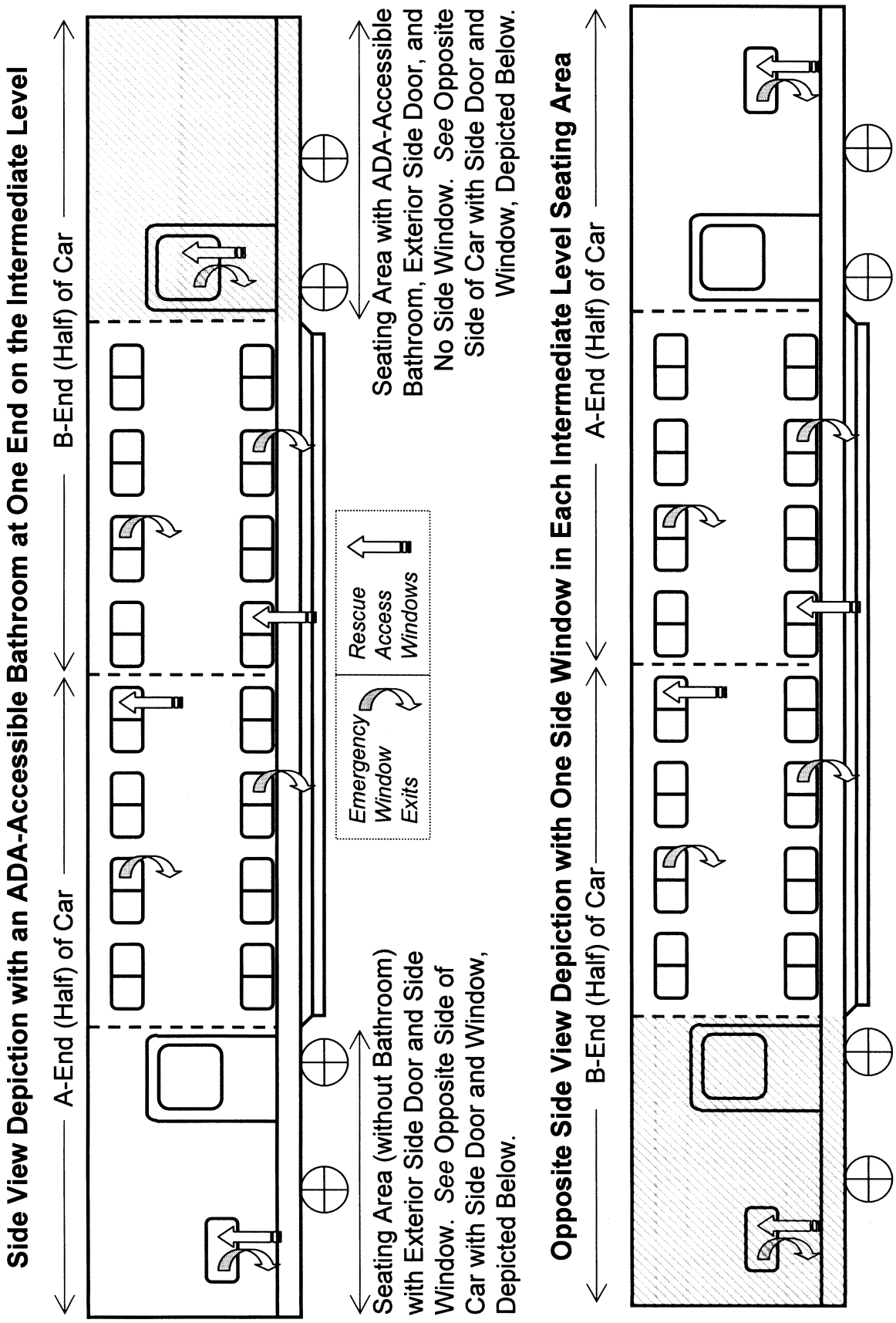
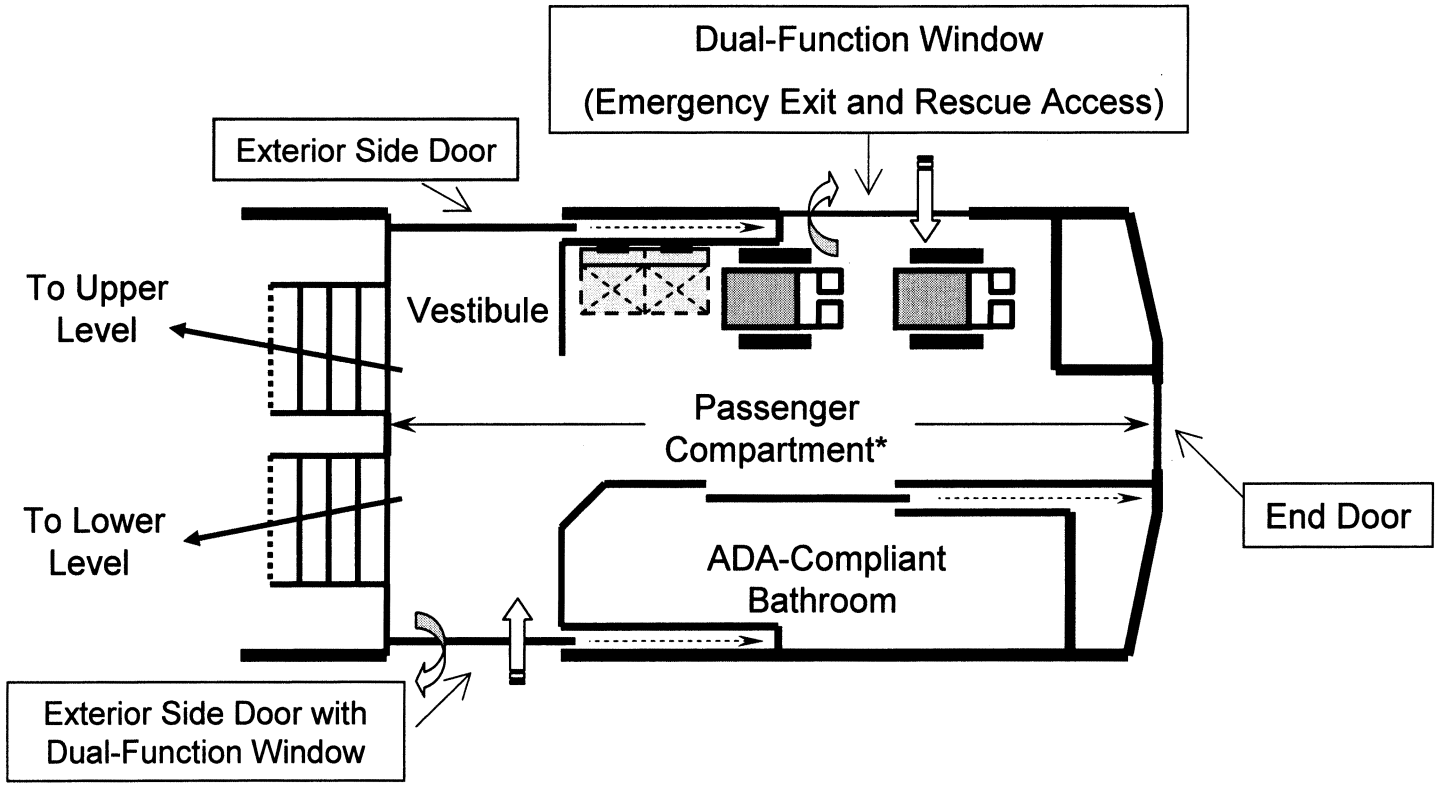


**Figure 2 to Subpart B of Part 238—Example of a Multi-Level Car Complying with Window Location and Staggering Requirements—§§ 238.113 and 238.114**



## Figure 2a to Subpart B of Part 238—Example of an Intermediate Level Seating Area of a Multi-Level Car Complying with Window Location Requirements—§§ 238.113 and 238.114

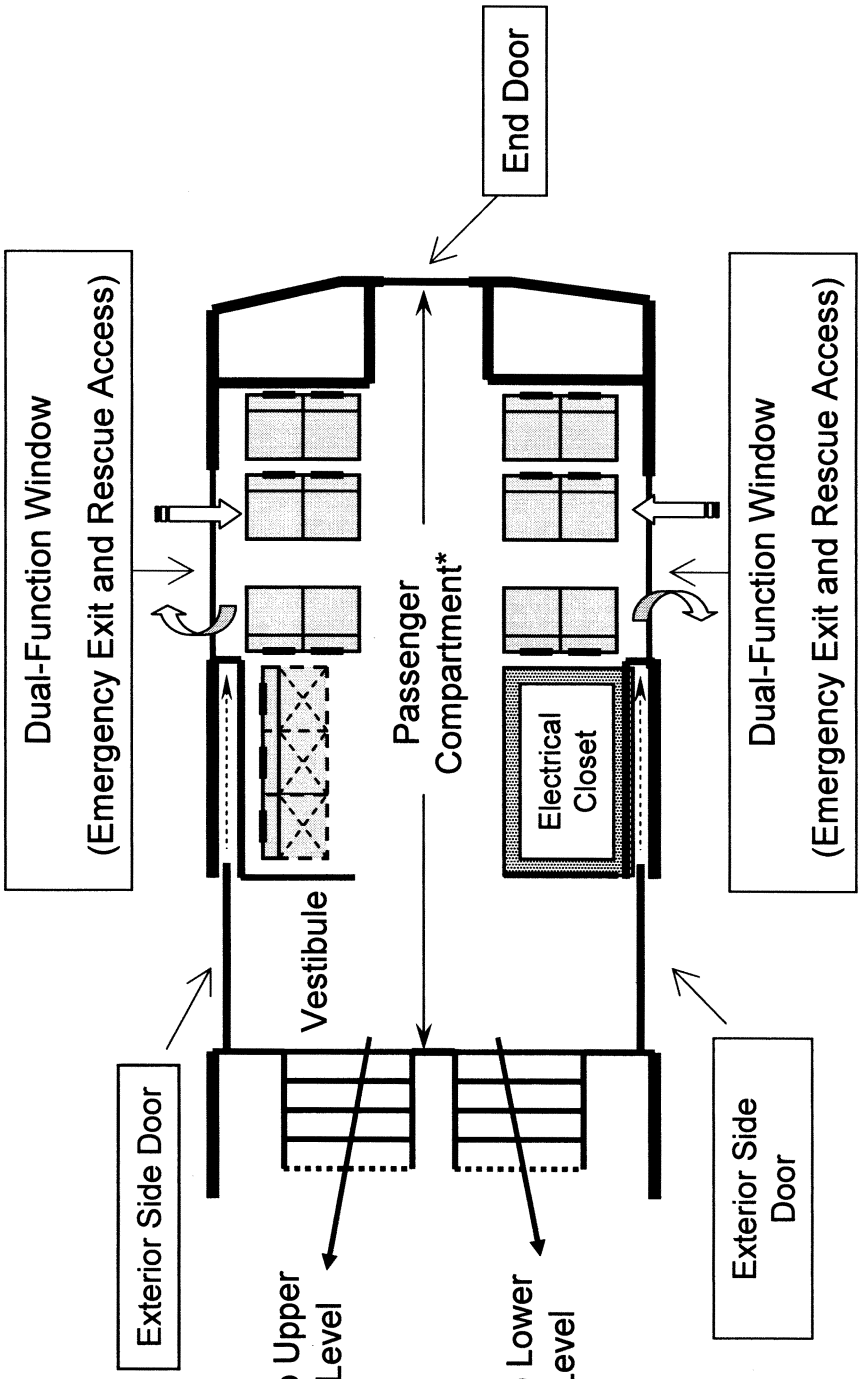
### Top View Depiction of an Intermediate Level Seating Area with an ADA-Accessible Bathroom




* The passenger compartment in this example includes the vestibule and extends to the point where the stairs begin because there is an open passageway leading to the vestibule. If an interior door separates the vestibule from the seating area, the passenger compartment would only extend to the interior vestibule door.

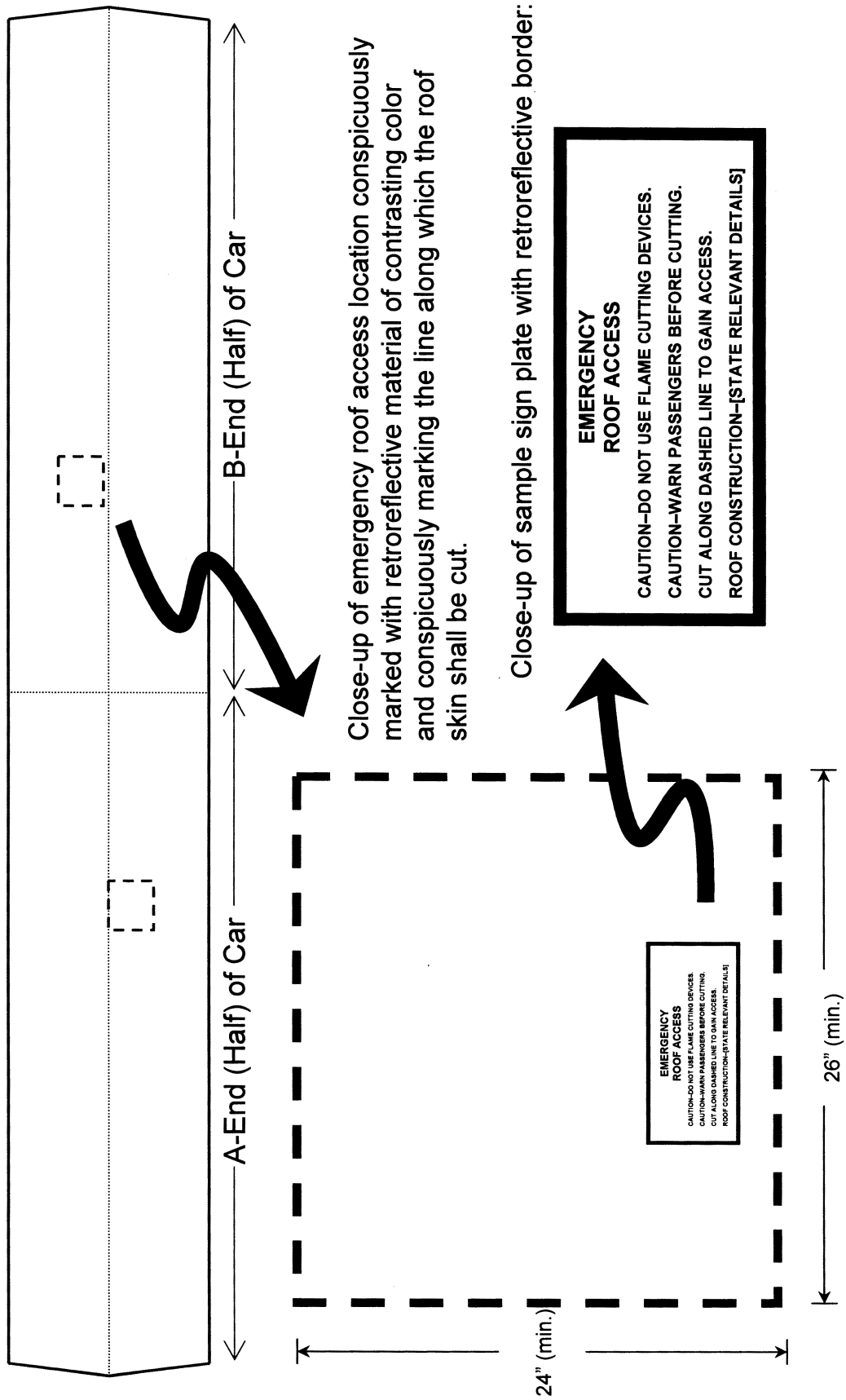
**Figure 2b to Subpart B of Part 238—Example of an Intermediate Level Seating Area of a Multi-Level Car Complying with Window Location Requirements—§§ 238.113 and 238.114**

**Top View Depiction of an Intermediate Level Seating Area with Two Side Windows**




* The passenger compartment in this example includes the vestibule and extends to the point where the stairs begin because there is an open passageway leading to the vestibule. If an interior door separates the vestibule from the seating area, the passenger compartment would only extend to the interior vestibule door.

**Figure 3 to Subpart B of Part 238—Example of Location and Marking of Structural Weak Points on Roof of Passenger Car—§ 238.123**



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## Subpart D—Inspection, Testing, and Maintenance Requirements for Tier I Passenger Equipment

■ 13. Section 238.303 is amended by adding paragraph (e)(18) to read as follows:

### § 238.303 Exterior calendar day mechanical inspection of passenger equipment.

* * * * *

(e) * * *

(18) All rescue-access-related exterior markings, signage, and instructions required by § 238.114 and § 239.107(a) of this chapter shall be in place and, as applicable, conspicuous or legible, or both.

(i) Except as provided in paragraphs (e)(18)(ii) and (iii) of this section, passenger equipment that has any required rescue-access-related exterior marking, signage, or instruction that is missing, illegible, or inconspicuous may remain in passenger service until no later than the equipment's fourth exterior calendar day mechanical inspection or next periodic mechanical inspection required under § 238.307, whichever occurs first, after the noncomplying condition is discovered, where the car shall be repaired or removed from service.

(ii) A passenger car having more than 50 percent of the windows on a side of a level of the car designated and properly marked for rescue access that has any required rescue-access-related exterior marking, signage, or instruction that is missing, illegible, or inconspicuous on any of the other windows on that side and level of the car may remain in passenger service until no later than the car's next periodic mechanical inspection required under § 238.307, where the car shall be repaired or removed from service.

(iii) A passenger car that is a sleeping car that has more than two consecutive windows with any required rescue access-related exterior marking, signage, or instruction at or near their locations that is missing, illegible, or inconspicuous may remain in passenger service until no later than the car's next periodic mechanical inspection required under § 238.307, where the car shall be repaired or removed from service.

(iv) A record shall be maintained of any noncomplying marking, signage, or instruction described in paragraphs (e)(18)(i) through (iii) of this section that contains the date and time that the defective condition was first discovered. This record shall be retained until all necessary repairs are completed.

* * * * *

■ 14. Section 238.305 is amended by revising paragraph (c) introductory text and paragraph (c)(10), and by adding paragraphs (c)(11) and (c)(12) to read as follows:

### § 238.305 Interior calendar day mechanical inspection of passenger cars.

* * * * *

(c) As part of the interior calendar day mechanical inspection, the railroad shall verify conformity with the following conditions, and nonconformity with any such condition renders the car defective whenever discovered in service, except as provided in paragraphs (c)(8) through (c)(12) and paragraph (d) of this section.

* * * * *

(10) All end doors and side doors operate safely and as intended. A noncomplying car may continue in passenger service pursuant to paragraph (d) of this section—

(i) If at least one operative and accessible door is available on each side of the car;

(ii) The train crew is provided written notification of the noncomplying condition; and

(iii) A notice is prominently displayed directly on the defective door indicating that the door is defective.

(11) [Reserved]

(12) On passenger cars so equipped, public address and intercom systems shall be operative and function as intended. A passenger car with an inoperative or nonfunctioning public address or intercom system may remain in passenger service until no later than the car's fourth interior calendar day mechanical inspection or next periodic mechanical inspection required under § 238.307, whichever occurs first, or for a passenger car used in long-distance intercity train service until the eighth interior calendar day mechanical inspection or next periodic mechanical inspection required under § 238.307, whichever occurs first, after the noncomplying condition is discovered, where it shall be repaired or removed from service; provided, the train crew is given written notification of the noncomplying condition, and all of the requirements contained in paragraph (d)(3) of this section are met.

* * * * *

■ 15. Section 238.307 is amended by revising paragraph (c) introductory text, paragraph (c)(5), and paragraph (d) to read as follows:

### § 238.307 Periodic mechanical inspection of passenger cars and unpowered vehicles used in passenger trains.

* * * * *

(c) The periodic mechanical inspection shall specifically include the following interior and exterior mechanical components, which shall be inspected not less frequently than every 184 days. At a minimum, this inspection shall determine that:

* * * * *

(5) With regard to the following emergency systems:

(i) Emergency lighting systems required under § 238.115 are in place and operational; and

(ii) [Reserved]

* * * * *

(d) At an interval not to exceed 368 days, the periodic mechanical inspection shall specifically include inspection of the following:

(1) Manual door releases, to determine that all manual door releases operate as intended;

(2) The hand or parking brake as well as its parts and connections, to determine that they are in proper condition and operate as intended. The date of the last inspection shall be either entered on Form FRA F 6180–49A, suitably stenciled or tagged on the equipment, or maintained electronically provided FRA has access to the record upon request; and

(3) Emergency roof access markings and instructions required under § 238.123(e), to determine that they are in place and, as applicable, conspicuous or legible, or both.

* * * * *

## Subpart E—Specific Requirements for Tier II Passenger Equipment

### § 238.437 [Removed]

■ 16. Section 238.437 is removed and reserved.

■ 17. Section 238.441 is revised to read as follows:

### § 238.441 Emergency roof access.

(a) *Existing passenger cars and power cars.* Each passenger car and power car ordered prior to April 1, 2009 and placed in service for the first time prior to April 1, 2011, shall have a minimum of one roof hatch emergency access location with a minimum opening of 26 inches by 24 inches, or at least one structural weak point in the roof providing a minimum opening of the same dimensions, to provide access for properly equipped emergency response personnel. Each emergency roof access location shall be conspicuously marked, and legible and understandable operating instructions shall be posted at or near each such location.

(b) *New passenger cars.* Each passenger car ordered on or after April

1, 2009 or placed in service for the first time on or after April 1, 2011, shall comply with the emergency roof access requirements specified in § 238.123.

(c) *New power cars.* Each power car ordered on or after April 1, 2009, or placed in service for the first time on or after April 1, 2011, shall have a minimum of one emergency roof access location, with a minimum opening of 26 inches longitudinally by 24 inches laterally, and comply with the emergency roof access requirements specified in §§ 238.123(b), (d), and (e).

■ 18. Appendix A to part 238 is amended by adding entries under subpart B for new sections 238.114, 238.121, and 238.123, under subpart E by removing and reserving the entry for section 238.437 and revising the entry for section 238.441, and by revising footnote 1 and adding footnote 2 to read as follows:

**Appendix A to Part 238—Schedule of Civil Penalties** [1] [2]

| Section | | Violation | Willful violation |
|---|---|---|---|
| **Subpart B—Safety Planning and General Requirements** | | | |
| * | * | * | * |
| 238.114 | Rescue access windows | 2,500 | 5,000 |
| * | * | * | * |
| 238.121 | Emergency communication | 2,500 | 5,000 |
| 238.123 | Emergency roof access | 2,500 | 5,000 |
| * | * | * | * |

**Subpart E—Specific Requirements for Tier II Passenger Equipment**

**§ 238.437 [Reserved]**

| | | | |
|---|---|---|---|
| * | * | * | * |
| 238.441 | Emergency roof access | 2,500 | 5,000 |
| * | * | * | * |

Issued in Washington, DC, on January 17, 2008.

**Joseph H. Boardman,**

*Federal Railroad Administrator.*

[FR Doc. 08–247 Filed 1–31–08; 8:45 am]

**BILLING CODE 4910–00–P**

[1] A penalty may be assessed against an individual only for a willful violation. Generally when two or more violations of these regulations are discovered with respect to a single unit of passenger equipment that is placed or continued in service by a railroad, the appropriate penalties set forth above are aggregated up to a maximum of $16,000 per day. However, failure to perform, with respect to a particular unit of passenger equipment, any of the inspections and tests required under subparts D and F of this part will be treated as a violation separate and distinct from, and in addition to, any substantive violative conditions found on that unit of passenger equipment. Moreover, the Administrator reserves the right to assess a penalty of up to $27,000 for any violation where circumstances warrant. *See* 49 CFR part 209, appendix A.

Failure to observe any condition for movement of defective equipment set forth in § 238.17 will deprive the railroad of the benefit of the movement-for-repair provision and make the railroad and any responsible individuals liable for penalty under the particular regulatory section(s) concerning the substantive defect(s) present on the unit of passenger equipment at the time of movement.

Failure to observe any condition for the movement of passenger equipment containing defective safety appliances, other than power brakes, set forth in § 238.17(e) will deprive the railroad of the movement-for-repair provision and make the railroad and any responsible individuals liable for penalty under the particular regulatory section(s) contained in part 231 of this chapter or § 238.429 concerning the substantive defective condition.

The penalties listed for failure to perform the exterior and interior mechanical inspections and tests required under § 238.303 and § 238.305 may be assessed for each unit of passenger equipment contained in a train that is not properly inspected. Whereas, the penalties listed for failure to perform the brake inspections and tests under § 238.313 through § 238.319 may be assessed for each train that is not properly inspected.

[2] The penalty schedule uses section numbers from 49 CFR part 238. If more than one item is listed as a type of violation of a given section, each item is also designated by a ''penalty code,'' which is used to facilitate assessment of civil penalties, and which may or may not correspond to any subsection designation(s). For convenience, penalty citations will cite the CFR section and the penalty code, if any. FRA reserves the right, should litigation become necessary, to substitute in its complaint the CFR citation in place of the combined CFR and penalty code citation, should they differ.