

Emergency Order No. 20

[4910-06]

DEPARTMENT OF TRANSPORTATION  
Federal Railroad Administration [FRA Emergency Order No. 20,  
Notice No. 1]

Commuter and Intercity Passenger Railroads,  
Including Public Authorities Providing Passenger  
Service, and Affected Freight Railroads

Emergency Order Requiring Enhanced Operating Rules  
and Plans for Ensuring the Safety of Passengers  
Occupying the Leading Car of a Train

#### Introduction

The Federal Railroad Administration (FRA) of the United States Department of Transportation (DOT) has determined that the safety of passengers and railroad employees compels issuance of this Emergency Order. Based on the historical record, rail passenger transportation in the United States is an extremely safe mode of transportation. However, recent train accidents in New Jersey and Maryland, which have claimed a total of fourteen

lives, have caused DOT, FRA, and the Federal Transit Administration (FTA) (also part of DOT) to have very serious concerns about the safety of certain aspects of rail passenger transportation. The National Transportation Safety Board (NTSB) has the lead in investigating both accidents. FRA is assisting in both investigations. Although NTSB will not reach final conclusions as to probable cause of either accident for some time, NTSB's preliminary conclusions and what FRA has learned from the investigations (set forth in detail, below) compel that certain steps be taken now to reduce the risks to passengers and crew that apparently exist under certain operating conditions.

Of particular concern are those operations that involve carrying passengers in the lead car of a train over segments of track that do not have either cab signal systems (which provide the engineer with an on-board display of signal indications alongside the tracks) or automatic train stop or automatic train control systems (which automatically cause the train to stop or reduce speed where an engineer fails to respond appropriately to a trackside signal). Both of the recent accidents involved such operations. While thousands of such operations occur daily without incident, the occurrence of two fatal accidents in one week has caused DOT, FRA, and FTA to examine closely the need for immediate enhancements in the safety of such operations. Also of great concern, based on the Maryland accident, is passenger and crew egress after an accident.

In summary, this order requires that commuter and intercity passenger railroads, including public authorities providing passenger service through contracts with other railroads, and any other entities (e.g., freight railroads with affected passenger service on their lines) whose actions are necessary to effectuate this order, take certain immediate steps with regard to any of their operations above 30 miles per hour that do not entail cab signal, automatic train stop, or automatic train control protections and that permit passengers to occupy the leading car (i.e., using either cab cars as the forward car in the push-pull mode or self-propelled locomotives with passenger seating (MU locomotives)). As set forth in detail below, those railroads are required to: (1) adopt and comply with an operating rule requiring that, when a passenger train stops for any reason, including a station stop, or its speed is reduced below 10 m.p.h., the train shall proceed under any speed limitations set forth in applicable railroad operating rules, and in addition, must be prepared to stop before passing the next signal; the train must maintain the prescribed speed until the next wayside signal is clearly visible and that signal displays a proceed indication, and the track to that signal is clear; (2) adopt and comply with an operating rule requiring that a crew member located in the operating cab of a controlling locomotive, cab car, or MU car, shall have a means to orally communicate and will communicate to another crew member the indication and location of each wayside signal affecting the movement of the train as soon as the signal becomes visible, for all signals which require either that the train be prepared to stop at the next wayside signal or that the train be prepared to pass the next wayside signal at restricted speed; (3) take certain measures to instruct and test employees on the aforementioned operating rules; and (4) submit to FRA an interim system safety plan for enhancing the safety of such operations that includes (I) a description of circumstances in which the leading car is permitted to be occupied by passengers; (ii) a review of operating rules relevant to such operations; (iii) plans for any short-term technology enhancements that would enhance train control; (iv) a review of crew management practices to see what steps can be taken to improve crew alertness; (v) a review of the hazards posed to passengers in the forward car by vehicles using highway-rail grade crossings; and (vi) a review of practices, in addition to marking exits, used by the railroad to inform passengers of the location and operation of emergency exits, specifying any plans for enhancing such information. In addition, each of these commuter and intercity passenger railroads, regardless of the speeds or equipment they use, is required to ensure that each emergency window on every passenger car is clearly marked on the outside and inside and that a representative sample has been inspected to make sure they are operable.

FRA may amend this order at any time to require other actions to ensure safety. For example, depending on what FRA learns from the railroads' interim safety plans and other sources after issuance of this order, it may decide that safety requires it to prohibit one or more railroads from carrying passengers in the lead car in the absence of a cab signal, automatic train stop, or automatic train control system.

#### Authority

Authority to enforce Federal railroad safety laws has been delegated by the Secretary of Transportation to the Federal Railroad Administrator. 49 CFR 1.49. Railroads are subject

to FRA's safety jurisdiction under the Federal railroad safety laws. 49 U.S.C. 20101, 20103. FRA is authorized to issue emergency orders where an unsafe condition or practice "causes an emergency situation involving a hazard of death or personal injury." 49 U.S.C. 20104. These orders may immediately impose "restrictions and prohibitions . . . that may be necessary to abate the situation." (Ibid.)

## Background

New Jersey Transit accident, Secaucus, N.J. On February 9, 1996, at about 8:40 a.m., a near-head-on collision occurred between New Jersey Transit trains 1254 and 1107 at mile post 2.8, on the borderline of Secaucus and Jersey City, New Jersey. Speed at the point of collision was approximately 7 m.p.h. for train 1254 and 53 m.p.h. for train 1107. Of the 325 passengers on both trains, one received fatal injuries and 162 reported minor injuries. The passenger fatality and most of the nonfatal injuries to passengers occurred on train 1254, which was operating with the cab control car forward and the locomotive pushing. In addition, the engineer was fatally injured. The cab control car incurred substantial damage as a result of near-frontal impact with the heavier locomotive of train 1107, operating in the "pull" mode. The locomotive engineer on train 1107 was fatally injured as a result of "cornering" of the locomotive cab that bypassed the collision posts in the short hood. Railroad property damage was estimated at more than \$3.5 million. Although the trains involved were equipped with cab signal and automatic train control (ATC) apparatus, the wayside portion of the signal system on the lines in question did not provide cab signals. The method of operation was by wayside signal indication.

Based on preliminary information derived from the joint investigation of the NTSB, FRA and other parties, the accident appears to have resulted from failure of train 1254 to observe signal indications requiring that the train be stopped short of the junction where the accident occurred. Agencies are investigating whether lack of alertness on the part of the locomotive engineer, who was working the second portion a night "split shift," may have contributed to the failure to observe signal indications. Since the accident, New Jersey Transit has eliminated use of the night split shift, which had previously been a longstanding practice on the railroad.

MARC accident, Silver Spring, Md. On February 16, 1996, at approximately 5:40 p.m., a near-head-on collision occurred between Maryland Rail Commuter Authority (MARC) train P28616 and National Railroad Passenger Corporation (Amtrak) Train PO2916 on the CSX Transportation line at Silver Spring, Maryland (milepost 8.3). The Amtrak train consisted of two locomotives in the lead and 15 cars. The MARC train consisted of a cab control car in the lead followed by two passenger coaches and a locomotive pushing the consist.

The accident resulted in 11 fatalities, consisting of 3 crew members and 8 passengers who were located in the MARC cab car. Non-fatal injuries were sustained by at least 13 additional passengers of the MARC train. As this order was prepared, one passenger remained in critical condition.

Early investigative findings by staff of the NTSB and FRA indicate that the MARC train, proceeding eastbound towards Washington Union Station on Track No. 2, passed an intermediate signal conveying an approach indication (proceed prepared to stop at next signal), made a scheduled station stop immediately past the signal, accelerated to approximately 63 miles per hour (maximum timetable speed 70 miles per hour), and then applied the train's emergency brakes upon rounding a curve and establishing sight distance for the home signal governing a crossover between the two main tracks, which is believed to have displayed a stop signal. The MARC train proceeded past the signal and struck the midpoint of the lead locomotive of the Amtrak train, which was diverging from Track No. 2 to Track No. 1 through the crossover. The initial impact sheared off the left collision post of the MARC cab car, together with a substantial portion of the front, side and roof structure on the left side approximately one-third of the way back along the length of the car. The impact also ruptured the left diesel fuel tank of the Amtrak lead locomotive, discharging an undetermined amount of diesel fuel into the MARC cab car. The MARC train continued substantially in line, apparently raking the second locomotive and coming to rest substantially parallel with the Amtrak train. Diesel fuel present in the cab car ignited.

Both of these accidents involved casualties in so-called "push/pull" operations with the consist being pushed by a locomotive at the rear. Control of such operations is conducted from the front of a cab control car, or "cab car," where an engineer compartment is located. Control cables run the length of the train, as do electrical lines providing power for heat, lights and other purposes throughout the train.

Cab cars provide passenger seating, as well as providing a location from which the train is operated. Cab cars are built with the same minimum longitudinal strength as locomotives and with substantial collision posts at each end to prevent incursion of other vehicles into the occupied volume. However, cab cars are lighter than powered vehicles, and no combination of structural measures can wholly prevent harm to persons in collisions involving substantial forces. Occupants of cab cars may incur a significantly higher risk of serious injury when compared with occupants of a locomotive-hauled consist, if the cab car collides with a heavier rail vehicle or any highway or rail vehicle transporting hazardous materials. Similar risks may obtain in the case of electric multiple-unit (EMU) service and diesel multiple-unit (DMU) service, because those vehicles have a structure similar to that of a cab car.

FRA recognizes that cab cars have provided hundreds of millions of miles of safe transportation since they were introduced in the late 1950s. EMU and DMU service has been provided with a high degree of safety since the early decades of this century. However, the recent accidents noted above compel FRA to review the safety of these operations to determine whether means can be found to further reduce the risk of serious injury in the subject service.

Prior accidents further illustrate the potential risk. For instance, on August 1, 1981, at Beverly, Massachusetts, a commuter train engineer was killed and 28 passengers were injured when a commuter train in the push mode collided head-on with a freight train due

to dispatcher error. On January 2, 1982, at Southampton, Pennsylvania, a single rail diesel car commuter train collided with a gas truck at a highway-rail crossing due to malfunction of the automated warning device at the crossing (loss of shunt). On November 12, 1987, at Boston, Massachusetts, a train in the push mode struck the locomotive at the back of a train proceeding in the same direction on the same track, resulting in injuries to 3 crew members and 220 passengers, due in part to a wayside signal malfunction. At Gary, Indiana, on January 18, 1993, two EMU consists struck in a cornering collision at the approach to a gauntlet bridge, resulting in 7 fatalities and 95 persons injured, due to failure of one of the engineers to observe signal indications.

#### Related FRA Rulemaking Actions

FRA is engaged in a broad range of actions designed to further enhance the safety of passenger operations. In September of 1994, the Secretary of Transportation announced that FRA would develop passenger equipment safety standards in two phases: initial regulations dealing with the most critical issues in three years, and final regulations dealing with all related subjects in five years. In November 1994, Congress passed the Federal Railroad Safety Authorization Act of 1994, section 215 of which requires the Secretary to issue regulations under the timetable the Secretary had previously announced, as measured from the enactment of the statute. FRA has begun a rulemaking concerning comprehensive passenger equipment safety standards. A Passenger Equipment Working Group, including representatives of passenger operators, employee representatives, rail passenger organizations, and States, assisted by railway suppliers, began work last summer on proposed rules. An Advance Notice of Proposed Rulemaking describing the issues under consideration by the working group will be published this spring, followed by one or more notices of proposed rulemaking on issues such as the following:

Inspection, testing and maintenance of passenger equipment;

Crashworthiness of passenger equipment, including cab car and passenger coach structural strength;

Emergency features integral to the train (e.g., emergency lighting, operation of doors, access points in the event equipment is on its side);

Standards for high-speed equipment; and

Passenger car interiors.

The working group will also prepare a second Notice of Proposed Rulemaking (NPRM) for passenger power brakes (which may be combined with other subject matter). FRA

anticipates publication of an NPRM on passenger equipment safety measures in 1996, followed by a final rule in 1997, as required by law. Issues requiring further research and technology development may be included in a subsequent NPRM. Under the same statutory authority, FRA has also established an Emergency Preparedness Working Group for rail passenger service that is broadly representative of interested parties. This effort builds on a process of research and consultation initiated in 1993. The working group is presently preparing an NPRM addressing issues such as on-board emergency equipment, availability of first aid, liaison with emergency responders, communication capability, and advance planning. Publication of the NPRM is anticipated in early summer.

The measures taken in this emergency order address matters of immediate concern as identified in the investigation of recent accidents. These measures will be integrated into the process of dialogue and discussion already underway with respect to passenger equipment safety and emergency preparedness. However, FRA believes that public safety requires the actions called for by this order now rather than waiting for the rulemaking process to run its course.

### The Need for Action

Although definitive conclusions have not been reached, preliminary indications are that both the Secaucus and Silver Spring accidents could have been prevented had wayside signal indications been followed, and the death tolls might have been reduced significantly had occupied cab cars not been the lead cars. Additionally, the Silver Spring accident indicates a need to ensure that emergency windows are clearly marked and operable. FRA believes that certain immediate measures are necessary to prevent a recurrence of these problems.

There is no evidence that push/pull or EMU operations are in any way over represented in passenger train accidents. All rail passenger operations, like other forms of transportation, involve some risk of injury due to collision with other vehicles or fixed structures. In certain accident scenarios (e.g., where the passenger consist in question is impacted from the rear), push-pull operations with the cab car forward actually offer greater protection. However, in collisions involving the front of the passenger train, cab car forward and MU operations do present an increased risk of severe personal injury or death when compared with locomotive-hauled service. This risk is of particular concern where operations are conducted at relatively higher speeds, where there is a mix of various types of trains, and where there are numerous highway-rail crossings over which large motor vehicles are operated.

As the accidents of past two weeks illustrate, this potential for accidents of greater severity warrants a review of measures taken to prevent such accidents. Since most train collisions on the railroad result from human factors, the most effective preventive measure is a highly effective train control system. Cab signal systems serve an important safety purpose because they provide a constant display of the governing signal indication. This provides a corrective measure should an engineer fail to note, forget, or misread a

restrictive wayside signal indication. Even greater security is provided by a train control system capable of intervening should the engineer fail to observe signals and operating rules for whatever reason (e.g., lack of alertness due to fatigue, sudden incapacitation, loss of situational awareness due to unusual events). Such systems are referred to as automatic train control or automatic train stop systems. New technologies currently under development and demonstration that can prevent collisions and overspeed derailments are known as "positive train separation" (PTS), Positive Train Control (PTC), or advanced train control (ATCS) systems.

## 1. Necessary Rule Changes

With regard to cab car forward and MU operations over territory lacking at least cab signals, the immediate need is to ensure that signal indications are followed. FRA believes that certain operating rules, already in place on many railroads, will assist engineers in remembering and adhering to signal indications. One rule will require that signal indications for an approach or less favorable than an approach be called out by the engineer as they are seen. A designated crewmember elsewhere in the train will acknowledge the communication and, in the absence of an appropriate response to a restrictive indication that has been communicated, take action to ensure the appropriate response. This will serve as a simple device to help the engineer remember to abide by signal indications and will add safety redundancy by involving other crew members in responsibility for safety with regard to compliance with signals.

The second rule will require that, if a passenger train enters a block on a signal indication and the train stops for any reason, including a station stop, or its speed is reduced below 10 m.p.h., the train shall proceed under speed limitations set forth in existing applicable operating rules, and in addition, must be prepared to stop before passing the next signal; the train must maintain the prescribed speed until the next wayside signal is clearly visible and that signal displays a proceed indication, and the track to that signal is clear. (For purposes of this order, a "block" is a length of track of defined limits the use of which is governed by wayside signal indications.) This will prevent situations where a signal displays an aspect less favorable than "clear" prior to a station stop but the engineer, after stopping and resuming movement, forgets that he or she should be operating at a reduced speed. This very well may be what happened in the Silver Spring accident. Under this rule, if the next signal is clear, timetable speed may be resumed. However, if the next signal requires a stop, the engineer will have the train under control and be prepared to stop short of the signal. This rule will presumably result in a certain amount of slowing of operations between station stops and the next forward signal, but FRA believes such relatively minimal delay is warranted to ensure safety.

## 2. Interim Safety Plans

FRA believes there is a broader need to have railroads carefully evaluate their passenger operations with a view toward enhancing the safety of those operations, with particular attention given to the safety of operations where passengers are in the lead car and to ways that train control systems might be upgraded. FRA has concluded that the safety of such operations can be enhanced by having each railroad develop an interim system safety plan addressing these subjects. This will both focus the attention of those railroads on avoiding occurrences similar to the recent accidents and provide FRA with detailed information allowing it to determine what further action may be necessary.

Therefore, this order will require railroads operating scheduled intercity or commuter rail service to conduct an analysis of their operations and file with FRA an interim safety plan indicating the manner in which risk of a collision involving a cab car is addressed. Railroads are encouraged to implement identified opportunities for risk reduction immediately. Upon review of these plans and the subject operations, FRA will determine whether further action is warranted.

Plans will be reviewed with the following factors in mind:

Railroads operating trains with the benefit of cab signals incur reduced risk.  
Augmentation of cab signals with ATC or PTC further reduces risk.

Lower speed operations (e.g., not to exceed 30 miles per hour) involve less risk because of lower potential collision forces.

The presence of automated warning devices, particularly flashing lights with gates, reduces risk of highway-rail crossing accidents involving heavy vehicles, particularly if crossing surfaces and approaches do not create a "hump" capable of hanging up a long, low truck or trailer.

Moreover, each interim safety plan will address these specific issues: Passenger occupancy of cab/MU cars in lead. Each interim safety plan must include a review of the use of leading cab cars and MU cars for transportation of passengers. In the Silver Spring accident, most train occupants were located in the cab car, even though two very lightly loaded passenger coaches were available for occupancy. Some operating authorities limit access to cab cars when seating capacity is not required. This order asks other authorities to review this potential for risk reduction. For instance, an operator whose service gathers small numbers of passengers on branch lines, with heavier loadings at stops on a cab-signal-equipped main line, might direct passengers to trailing coaches until the train arrives on the main line.

Operating rules. As noted above, this order requires early amendment of operating rules to make passenger operations subject to the "delayed in block" provisions of most

existing rule books and to require engineer-to-train crew communication of certain signals. These steps will enhance safety by adding a layer of redundancy in safety procedures where presently none exists. In addition to these steps, the order requires passenger railroads to review other operating rules applicable to their particular methods of operation to determine if enhancements in safety can be achieved consistent with provision of efficient rail passenger service.

Adverse operating conditions. Crew performance and other aspects of operational safety can be affected by unusual conditions such as heavy snow, fog, high water, and other unusual conditions. This order requires a review of existing procedures to determine if reasonable enhancements in safety can be made by compensating for the challenges these conditions pose to system performance.

Short-term technology enhancements. Where the railroad and all trains are not already cab signal/ATC-equipped, positive train control systems will offer the most secure means of preventing train collisions. However, PTC systems remain under development and will be deployed over a period of several years. The order requires review of possible technology enhancements that can be achieved over a short time period. For instance, FRA believes that virtually all passenger operations include the use of an alerting device that will stop the train should the engineer become incapacitated. However, certain freight operations on the same railroad may be conducted without such a device. Depending upon the number of units involved, equipping remaining trains with alerting devices (a readily available item) could close a gap in accident prevention at relatively low cost.

Crew management. Following the accident of February 9, New Jersey Transit found that it was able to eliminate night split shifts without adversely affecting operations. Night split shifts present special problems because of the effect of biological rhythms and fatigue on human performance. This order requires other passenger operators using cab car/MU forward trains to review their management of operating crews to determine if opportunities exist for risk reduction similar to the action taken by New Jersey Transit. FRA emphasizes that the issue of on- and off-duty periods is governed by the hours of service law, as codified at 49 U.S.C. 21102-21108, 21303-21304. The order requires passenger operators to consider safety improvements that may be undertaken voluntarily in a manner that is consistent with statutory law. FRA is also authorized to approve pilot projects involving variances from the periods specified by the statute upon petition by the railroad and designated representatives of the employees involved.

Highway-rail crossings. Cab-forward and MU operations pose a somewhat heightened risk of severe injury for passengers should an accident occur, in comparison to locomotive-hauled passenger coaches. Operators should give consideration to closer interface with private crossing holders that use the crossings for truck access, give greater attention to liaison with law enforcement authorities, and explore other means that may reduce risk at both public and private crossings. Accelerated application of locomotive alerting lights (already authorized by regulation and required by statute) may offer another opportunity for risk reduction. This order requires that each railroad's interim

safety plan address these grade crossing issues in the context of cab-forward and MU operations. FRA is very concerned about the safety of such operations in absence of a plan to address grade crossing hazards.

Information on emergency exits. The Silver Spring accident has raised serious concerns about whether the MARC passengers had sufficient information about the location and operation of emergency exits to enable them to find and use those exits in a crisis. FRA believes it would be very useful for all commuter and intercity passenger railroads to review their practices, in addition to marking the exits, for providing this information.

### 3. Emergency Exits

Finally, there is a need to ensure that emergency exits are clearly marked and in operable condition on all passenger lines, regardless of the equipment used or train control system. FRA's regulations generally require that all passenger cars be equipped with at least four emergency opening windows, which must be designed to permit rapid and easy removal during a crisis situation. The investigation of the Silver Spring accident has raised some concerns that at least some of the occupants of the MARC train attempted unsuccessfully to exit through the windows. Whether those same people eventually were among those who exited safely, or whether those persons were attempting to open windows that were not emergency windows is not known at this time. However, there is sufficient reason for concern to require that measures be taken to ensure that such windows are readily identifiable and operable when they are needed. Accordingly, the order requires that any emergency windows that are not already legibly marked as such on the inside and outside be so marked, and that a representative sample of all such windows be examined to ensure operability. (FRA Safety Glazing Standards, 49 CFR Part 223, require that each passenger car have a minimum of four emergency window exits "designed to permit rapid and easy removal during a crisis situation.")

### Finding and Order

FRA concludes that certain current conditions and practices on commuter and intercity passenger railroads pose an imminent and unacceptable threat to public and employee safety. Of greatest concern are push-pull and MU operations lacking the protection provided by cab signal, automatic train stop, or automatic train control systems. I find that the unsafe conditions discussed above create an emergency situation involving a hazard of death or injury to persons. Accordingly, pursuant to the authority of 49 U.S.C. 20104, delegated to me by the Secretary of Transportation (49 CFR 1.49), it is hereby ordered that each commuter and intercity passenger railroad, and any other entity (e.g., freight railroads over whose lines affected passenger operations are conducted) whose actions are necessary to effectuate the directives in this order, take the following actions:

(1) Delayed in block rule. Note: This rule applies to all push-pull and MU operations unless cab signal, automatic train stop, or automatic train control is in operation, speeds do not exceed 30 m.p.h., or within yard or terminal limits as specified for this purpose by the railroad.

(A) Within 10 days of this order, have in effect, publish in its code of operating rules, and comply with a rule that requires: If a passenger train enters a block on a signal indication and the train stops for any reason, including a station stop, or its speed is reduced below 10 m.p.h., the train shall proceed under speed limitations set forth in existing applicable railroad operating rules, and in addition, must be prepared to stop before passing the next signal. The train must maintain the prescribed speed until the next wayside signal is clearly visible and that signal displays a proceed indication, and the track to that signal is clear. A copy of the rule will be provided to the FRA Office of Safety Assurance and Compliance in care of James T. Schultz, Staff Director, Operating Practices.

(B) Within 30 days of the issuance of the railroad's rule, a railroad operating supervisor shall personally contact each engineer and conductor in passenger service and inform them in a face-to-face meeting of the requirements of that rule. Such briefing shall be documented and such documentation shall be available for FRA review upon request, including date, time, location, crew members contacted, and supervisor making the contact.

(C) Within 60 days of the issuance of the railroad's rule, each engineer/conductor in such passenger service shall receive an unannounced operational ("efficiency") test on the rule which requires a full stop at the signal ahead; and, within 90 days of rule publication, an on-board operational monitoring ride shall be conducted by an operating supervisor of the railroad to ensure a complete understanding of rule provisions. Such tests and operational monitoring checks shall be documented and such documentation shall be available for FRA review upon request, including date, time, location, crew members involved, and supervisor making the test/monitoring ride.

(D) The railroad's program of operational tests and inspections under 49 CFR Part 217 shall be revised as necessary to include this rule, and shall specifically include a minimum of two such tests per year for each passenger engineer.

(2) Crew communications rule. Note: This rule applies to all push-pull and MU operations unless cab signal, automatic train stop, or automatic train control is in operation, speeds do not exceed 30 m.p.h., or within yard or terminal limits as specified for this purpose by the railroad.

(A) Within 10 days of this order, have in effect, publish in its operating rules, and comply with a rule that requires: A crew member located in the operating cab of a controlling locomotive, cab car, or MU car, shall have means to communicate orally and shall communicate the indication and location of each wayside signal affecting the movement of the train as soon as the signal becomes visible, for all signals which require either (1) that the train be prepared to stop at the next wayside signal, or (2) that the train be

prepared to pass the next wayside signal at restricted speed. In multiple track territory, the crew member shall include the affected track number. A copy of the rule shall be provided to the FRA Office of Safety Assurance and Compliance in care of James T. Schultz, Staff Director, Operating Practices.

(B) A designated crew member located on a trailing unit or car shall immediately acknowledge the transmission, and confirm the information to the crew member(s) on the controlling locomotive by repeating the message. If the designated crew member fails to acknowledge the communication, the engineer must ascertain at the next scheduled stop why the message is not being confirmed. If necessary due to radio equipment failure, alternative means shall be established by the operating crew (e.g., via intercom, cellular telephone, etc.) to accomplish the procedure.

(C) If the engineer fails to control the train movement in accordance with either a wayside signal indication or other restrictions imposed upon the train, the designated crew member in a trailing unit or car shall at once communicate with and caution the engineer regarding the restriction, and, if necessary, take appropriate action to ensure the safety of the train, including stopping the movement if appropriate.

(D) Within 30 days of the issuance of the railroad's rule, a railroad operating supervisor shall personally contact each engineer and conductor in passenger service and inform them in a face-to-face meeting of the requirements of this rule. Such briefing shall be documented and such documentation shall be available for FRA review upon request, including date, time, location, crew members contacted, and supervisor making the contact.

(E) Within 60 days of the issuance of the railroad's rule, each engineer/conductor in such passenger service shall receive an unannounced operational "efficiency" test on the rule; and, within 90 days of rule publication, an on-board operational monitoring ride shall be conducted by an operating supervisor of the railroad to ensure a complete understanding of rule provisions. Such tests and operational monitoring checks shall be documented and such documentation shall be available for FRA review upon request, including date, time, location, crew members involved, and supervisor making the test/monitoring ride.

(F) The railroad's program of operational tests and inspections under 49 CFR Part 217 shall be revised as necessary to include this rule, and shall specifically include a minimum of two such tests per year for each passenger engineer.

(3) Emergency egress: marking and inspecting exits.

(A) Within 60 days of this order, ensure that each emergency exit location is marked both inside the car for passenger and crew information and, with regard to emergency window exits, on the exterior of the car as well for emergency responders. Markings for egress from inside the car shall be accompanied by clear and legible instructions for operation of

the exit. Such markings must be clearly visible and legible at egress locations. This paragraph does not require action where reasonably conspicuous and fully legible markings and instructions already exist.

(B) Immediately begin, and within 60 days of this order complete, a program to test a representative sample of emergency window exits on cars in its fleets to verify proper operation. Defective units will be repaired before the car is returned to service. Additionally, when a defective exit is discovered, all exits on that specific series/type of car will be tested and every defective exit replaced. Railroads must report to FRA when such action is necessary, and shall include a timetable for window inspection and replacement on the car series to remedy the problem in the most expedient manner.

(C) Records of the date, car number, and verification of proper exit operation shall be maintained and available for FRA review upon request. Each railroad shall also verify emergency exit operation as part of routine vehicle maintenance cycles.

(4) Interim system safety plans. Each authority operating or contracting for the operation of push-pull, EMU or DMU service (including Amtrak) shall, not later than 45 days from this order, submit to FRA an interim system safety plan for the purpose of enhancing the safety of such operations. In developing such plans, the authority shall provide opportunity for the riding public and designated representatives of railroad employees to comment on proposed actions that may affect the quality of service, including passenger safety.

The plan shall address the following hazards associated with passenger occupancy of lead units:

Train-to-train collisions.

Derailments giving rise to the hazard of impact with fixed structures.

Collisions with heavy vehicles at highway-rail crossings.

The plan shall take into consideration the overall safety of all passengers and crew members and shall, at a minimum, address the following opportunities for risk reduction:

(A) Use of cab car/MU car. The authority shall specify the circumstances under which occupancy of a cab or MU car in the lead position is permitted, by route and train assignment. The authority shall propose or report appropriate modifications in such practices, taking into consideration service needs (e.g., equipment capacity, passenger loadings) and safety issues (e.g., train densities, method of operation, availability of cab

signals and automatic control, issues related to standing passengers, grade crossing exposure, and other relevant factors).

(B) Operating rules. The authority shall review railroad operating rules and practices pertinent to the hazards listed above to determine if further enhancements in safety are warranted and advise FRA as to what action is necessary to enhance the level of safety. Changes in existing rules shall be specified. In conducting this review, the operating authority shall analyze the measures imposed in sections 1 and 2 of this order and may propose alternative approaches that ensure the same enhancements in safety associated with those measures.

(C) Adverse conditions. In conducting the review of railroad operating rules and practices, consideration shall be given to adverse or unusual operating conditions such as weather (e.g., fog, heavy rain or snow, flooding, etc.).

(D) Short-term technology enhancements. The authority shall consider short-term enhancements in technology that may improve the safety of train operations, such as use of alerting devices, equipping of additional locomotives with cab signal/ATC apparatus (where in effect on the territory), or other available enhancements to enhance engineer performance or provide warning of operation in excess of authority provided by the wayside signal system. In addition, the authority shall consider whether the installation of additional signals on any particular line would appreciably reduce the risk of train collisions.

(E) Crew management. The authority shall review crew management practices in light of contemporary literature regarding shift work and cumulative fatigue to determine if the alertness and performance of employees can be promoted by changes in those practices. Special attention shall be given to the issue of night split shifts.

(F) Highway-rail grade crossings. The authority shall review risks to passengers associated with occupancy of cab or MU cars in the lead while passing over highway-rail crossings, particularly crossings utilized by heavy vehicles and vehicles transporting hazardous materials, and shall address measures that can reduce these risks..

(G) Emergency exit notification. The authority shall review methods it uses, in addition to marking emergency exits, to inform passengers of the location and operation of those exits, such as flyers dropped on seats, announcements to passengers, explanations on the face of passenger tickets, etc. The authority shall specify any plans it has to increase passenger awareness of the location and operation of emergency exits.

Upon receipt of plans responsive to the above-reference requirements, the Administrator, in consultation with the FTA Administrator, will determine whether other mandatory action appears necessary to address hazards associated with the subject rail passenger service.

## Relief

Petitions for special approval to take actions not in accordance with this order may be submitted to the Associate Administrator for Safety, who shall be authorized to dispose of those requests without the necessity of amending this order.

## Penalties

Any violation of this order shall subject the person committing the violation to a civil penalty of up to \$20,000. 49 U.S.C. 21301. FRA may, through the Attorney General, also seek injunctive relief to enforce this order. 49 U.S.C. 20112.

## Effective Date and Notice to Affected Persons

This order shall take effect at 12:01 a.m on February 21, 1996. This notice will be published in the Federal Register as soon as possible. Prior to publication, copies of this notice will be delivered by overnight mail or facsimile to the affected passenger railroads, public authorities, and railroad labor organizations.

## Review

Opportunity for formal review of this Emergency Order will be provided in accordance with 49 U.S.C. 20104(b) and section 554 of Title 5 of the United States Code. Administrative procedures governing such review are found at 49 CFR Part 211. See 49 CFR 211.47, 211.71, 211.73, 211.75, and 211.77.

Issued in Washington, D.C. on FEB 20, 1996

Signed by  
Jolene M. Molitoris  
Administrator