



4910-06-P

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Railroad Administration**

**[Emergency Order No. 31, Notice No. 1]**

### **Emergency Order under 49 U.S.C. 20104 Establishing Requirements for the National Railroad Passenger Corporation to Control Passenger Train Speeds at Certain Locations Along the Northeast Corridor**

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**SUMMARY:** FRA is issuing this emergency order (EO or Order) to require that the National Railroad Passenger Corporation (Amtrak) take actions to control passenger train speed at certain locations on main line track in the Northeast Corridor (as described by 49 U.S.C. 24905(c)(1)(A)). Amtrak must immediately implement code changes to its Automatic Train Control (ATC) System to enforce the passenger train speed limit ahead of the curve at Frankford Junction in Philadelphia, Pennsylvania, where a fatal accident occurred on May 12, 2015. Amtrak must also identify each main track curve on the Northeast Corridor where there is a significant reduction (more than 20 miles per hour (mph)) from the maximum authorized approach speed to those curves for passenger trains. Amtrak must then develop and comply with an FRA-approved action plan to modify its existing ATC System or other signal systems (or take alternative operational actions) to enable enforcement of passenger train speed limits at the identified curves. Amtrak must also install additional wayside passenger train speed limit signage at appropriate locations on its Northeast Corridor right-of-way.

**FOR FURTHER INFORMATION CONTACT:** Ron Hynes, Director, Office of Safety Assurance and Compliance, Office of Railroad Safety, FRA, 1200 New Jersey Avenue SE., Washington, DC 20590, telephone (202) 493-6404; Joseph St. Peter, Trial Attorney, Office of Chief Counsel, FRA, 1200 New Jersey Avenue SE., Washington, DC 20590, telephone (202) 493-6047, [joseph.st.peter@dot.gov](mailto:joseph.st.peter@dot.gov); or Matthew Navarrete, Trial Attorney, Office of Chief Counsel, FRA, 1200 New Jersey Avenue SE., Washington, DC 20590, telephone (202) 493-0138, [matthew.navarrete@dot.gov](mailto:matthew.navarrete@dot.gov).

**SUPPLEMENTARY INFORMATION:**

**INTRODUCTION**

FRA has determined that public safety compels issuance of this EO. This determination is made in light of the Amtrak train derailment that occurred in Philadelphia, Pennsylvania on May 12, 2015, in which eight persons were killed and a significant number of others were seriously injured. While the cause of the accident has not yet been determined, preliminary investigation into this derailment indicates the train was traveling approximately 106 mph on a curve where the maximum authorized passenger train speed is 50 mph. This was a serious overspeed event and FRA has concluded that additional action is necessary in the form of this EO to eliminate an immediate hazard of death, personal injury, or significant harm to the environment.

**AUTHORITY**

Authority to enforce Federal railroad safety laws has been delegated by the Secretary of Transportation to the Administrator of FRA. 49 CFR 1.89 and internal delegations. 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, personal injury, or significant harm to the environment.” 49 U.S.C. 20104. These orders may immediately impose “restrictions and prohibitions . . . that may be necessary to abate the situation.” Id.

## **AMTRAK DERAILMENT**

On Tuesday, May 12, 2015, Amtrak passenger train 188 (Train 188) was traveling timetable east (northbound) from Washington, D.C., to New York City. Aboard the train were five crew members and approximately 238 passengers. Train 188 consisted of a conventional set-up with a locomotive in the lead and seven passenger cars trailing. Shortly after 9:20 p.m., the train derailed while traveling through a curve in the track at Frankford Junction in Philadelphia, Pennsylvania. As a result of the accident, eight people were killed, and a significant number of people were seriously injured.

The National Transportation Safety Board (NTSB) has taken the lead role conducting the investigation of this accident under its legal authority. 49 U.S.C. 1101 et seq.; 49 CFR 800.3(a) and 831.2(b). As is customary, FRA is participating in the NTSB’s investigation and also investigating the accident under its own authority. While NTSB has not yet issued any formal findings, the information it has released makes it obvious that train speed was a likely factor in the derailment. As Train 188 approached the curve from the west, it traveled over a straightaway with a maximum authorized passenger train speed of 80 mph. The maximum authorized passenger train speed for the curve was 50 mph. NTSB determined that the train was traveling approximately 106 mph within the curve’s 50-mph speed restriction, exceeding the maximum authorized speed on the straightaway by 26 mph, and 56 mph over railroad’s maximum authorized

speed for the curve.<sup>1</sup> NTSB also determined the locomotive engineer operating the train made an emergency application of Train 188's air brake system, and the train slowed to approximately 102 mph before derailing in the curve.

## **2013 METRO-NORTH DERAILMENT**

Upon evaluating the Amtrak accident described above, FRA found similarities to an accident that occurred in December 2013, on the New York State Metropolitan Transportation Authority's Metro-North Commuter Railroad Company (Metro-North) track. The Metro-North accident was the subject of FRA's Emergency Order No. 29. 78 FR 75442, Dec. 11, 2013. That accident occurred when a Metro-North passenger train was traveling south toward Grand Central Terminal in New York City. The train traveled over a straightaway with a maximum authorized passenger train speed of 70 mph before reaching a sharp curve in the track with a maximum authorized speed of 30 mph. NTSB's investigation of the Metro-North accident determined the train was traveling approximately 82 mph as it entered the curve's 30-mph speed restriction before derailing. That derailment resulted in four fatalities and at least 61 persons being injured.

## **OVERSPEED PROTECTIONS**

Amtrak's passenger trains are normally operated with only one crewmember in the cab of a passenger train's locomotive. Amtrak's controlling locomotives are typically equipped with an alerter to help ensure the attentiveness of the locomotive engineer operating the train. Amtrak's locomotive controls and its signal systems also incorporate an ATC System, which is a train speed control system where trains are automatically slowed or stopped if a locomotive engineer fails to comply with signal indication or is

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<sup>1</sup> FRA regulations provide, in part, that it is unlawful to "[o]perate a train or locomotive at a speed which exceeds the maximum authorized limit by at least 10 miles per hour." 49 CFR 240.305(a)(2).

otherwise unable to take action to slow a train. The ATC system is used to enforce compliance with certain signal indications in a particular territory, but it is not typically used to enforce civil passenger train speed restrictions that are below the maximum authorized operating speed for the broader territory. However, Amtrak's ATC System is capable of being used in a manner to enforce civil speed restrictions that are below the maximum authorized operating speed in some situations. This is accomplished by installing a code change point at or near the location where the speed restriction is to be enforced. As mentioned above, Amtrak's existing ATC System is not currently coded to slow trains to comply with applicable speed limits in all circumstances, and such coding may not be operationally feasible in all instances.<sup>2</sup> As demonstrated by the May 12, 2015, accident, if a locomotive engineer fails to take action to slow a train when approaching such a speed restriction, currently, Amtrak's ATC System will not slow the train to comply with the required speed reduction.

In light of the May 12 derailment that is the subject of this Order, and in an effort to immediately prevent similar incidents from occurring that could result in an emergency situation involving a hazard of death, personal injury, or significant harm to the environment, in this Order FRA is requiring Amtrak take certain immediate actions. First, FRA is ordering Amtrak to implement code changes to its ATC System near the Frankford Junction curve in Philadelphia where the May 12 accident occurred in the timetable east (northbound) direction. The changes implemented must provide enforcement of the relevant passenger train speed limit of 50 mph for passenger trains

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<sup>2</sup> FRA understands that on the date of the accident the ATC system enforced the curve's speed restriction for the timetable west (southbound) trains at this curve but not for the timetable east (northbound) trains.

approaching that curve. Amtrak has already completed actions to implement such changes.

Next, Amtrak must identify all other main track curves on the Northeast Corridor where there is a significant reduction (more than 20 mph) in the authorized passenger train approach speed upon the approach to those curves. After identifying such curves, Amtrak must develop and submit to FRA for review and approval an action plan to make appropriate code modifications to its existing ATC System or other signal systems to enable warning and enforcement of relevant passenger train speed restrictions. This requirement does not apply to portions of the Northeast Corridor where Amtrak's operations are governed by a Positive Train Control (PTC) system that is in use. To the extent that other railroads operate passenger trains at the same maximum authorized speeds as Amtrak in the curves affected by this Order, the modifications Amtrak makes to its ATC System or signal systems must also enforce the relevant speed restrictions for those trains.

If such code changes at identified curves will interfere with the timely implementation of PTC or are otherwise not viable, Amtrak must identify other actions it will take to ensure compliance with speed reductions (e.g., a procedure whereby a locomotive engineer and a second qualified employee communicate via radio ahead of relevant speed reductions, and where the second qualified employee may make an emergency brake application to slow the train if the locomotive engineer fails to do so). These alternative operational actions must be described in Amtrak's action plan submitted to FRA for approval. In addition, any alternative operational actions Amtrak adopts to ensure compliance with speed restrictions at identified curve locations on the

Northeast Corridor also apply to passenger trains operated by other railroads at those curve locations.

FRA notes that other railroads have coded their ATC systems to prevent overspeed events from occurring at locations where there are civil or other speed restrictions. FRA's Emergency Order No. 29, issued after the December 2013 accident discussed above, required Metro-North to take similar actions in response to that accident. FRA is ordering Amtrak to take similar steps to prevent accidents similar to the May 12, 2015, accident from occurring in the future if a locomotive engineer fails (or is otherwise unable) to take action to appropriately slow or stop a passenger train.

In addition to the above requirements, Amtrak must also enhance speed restriction signage along its rights-of-way on the Northeast Corridor. Amtrak must identify in the action plan it submits to FRA the locations at which it intends to install such additional signage, and provide notice to FRA when such additional signage has been installed. Increasing the amount and frequency of signage provides a redundant means to remind engineers and conductors of the authorized speed, in addition to information they receive from the ATC System and operational documents such as timetable or bulletin.

FRA recognizes that Amtrak has been diligent in implementing PTC on the Northeast Corridor by December 31, 2015, as required by section 104 of the Rail Safety Improvement Act of 2008. (Public Law 110-432, Division A, 122 Stat. 4848, 4856 (49 U.S.C. 20157)). Amtrak has indicated that it intends to meet the RSIA's statutory deadline to install PTC on the Northeast Corridor. Once in use, the PTC system will enforce the speed restriction at the curve where the May 12, 2015, accident occurred, but the interim action of implementing the code change in the ATC System, as required by

this EO, will provide overspeed derailment protection until the PTC system is in use. As discussed above, Amtrak has already taken action to enforce appropriate passenger train speed limits near the curve where the May 12, 2015, accident occurred prior to its resumption of passenger train service, and plans to take similar actions at certain other locations on the Northeast Corridor. Amtrak also has stated it intends to increase radar checks, locomotive event recorder downloads, and efficiency tests aimed at ensuring compliance with relevant speed restrictions. Finally, Amtrak intends to hold listening sessions with its employees to learn about, and address, any additional safety concerns.

Nonetheless, due to the significant safety concerns presented by the May 12, 2015, accident, FRA believes immediate enforceable action is necessary to address the emergency situation that contributed to that derailment. FRA will continue to review additional actions to address safety concerns on the Nation's passenger rail systems as its investigation into the May 12, 2015, derailment continues. FRA will revisit the necessity of the requirements in this Order upon reviewing Amtrak's actions taken to comply with the EO, or upon PTC systems governing Amtrak's operations on the Northeast Corridor becoming operative.

## **FINDING AND ORDER**

FRA recognizes that passenger rail transportation is generally extremely safe. However, FRA finds that the recent May 12, 2015, accident on Amtrak, and the lack of overspeed protections in place at certain locations on Amtrak's system, create an emergency situation involving a hazard of death, personal injury, or significant harm to the environment. Accordingly, under the authority of 49 U.S.C. 20104, delegated to the

Administrator of FRA by the Secretary of Transportation, 49 CFR 1.89 and internal delegations, it is hereby ordered that:

1. Amtrak must immediately implement code changes to its ATC System or other signal systems near the Frankford Junction curve in Philadelphia, Pennsylvania where the fatal May 12, 2015, accident occurred. The changes must enforce the passenger train speed limit of 50 mph for timetable east (northbound) trains approaching that curve.
2. Amtrak must survey its main line track system located on the Northeast Corridor (as described by 49 U.S.C. 24905(c)(1)(A)) and identify each main track curve where there is a reduction of more than 20 mph from the maximum authorized approach speed to that curve for passenger trains, and provide a list of each location to the FRA Associate Administrator for Railroad Safety and Chief Safety Officer (Associate Administrator) within 5 days of the date of this Order. For purposes of compliance with this Order, the speed reductions of more than 20 mph that existed on the date of the issuance of this Order apply.
3. After identifying the curves above, Amtrak shall develop and submit to FRA for approval an action plan that accomplishes each of the following:
  - a. Identifies appropriate modifications to Amtrak's existing ATC System or other signal systems that Amtrak will make to enable warning and enforcement of applicable passenger train speeds at the identified curves. If such coding changes will interfere with the timely implementation of a PTC system or are not otherwise feasible, Amtrak's plan must describe why such changes are not feasible and may describe alternative operating procedures that it will adopt at the identified curves to ensure compliance with applicable speed reductions.

- b. Contains milestones and target dates for implementing each identified modification to Amtrak's existing ATC System or other signal systems (or alternative operational changes) to enable warning and enforcement of passenger train speeds at the identified curves.
4. Amtrak must submit the action plan to the Associate Administrator within 20 days of the date of this Order. FRA will review and approve, approve with conditions, or disapprove Amtrak's action plan within 15 days of the plan's submission to FRA. Once FRA approves its action plan, Amtrak must make all identified modifications to the existing ATC System or other signal systems (or alternative operational changes) in the timeframes and manner that complies with all conditions FRA places on its approval of Amtrak's action plan.
5. As soon as possible, but not later than 30 days after the date of this Order, Amtrak must begin to install additional wayside signage alerting engineers and conductors of the maximum authorized passenger train speed throughout its Northeast Corridor system, with particular emphasis on additional signage at the curve locations where speed reductions implicated by this Order must occur. Amtrak must identify the locations where it intends to install the additional wayside speed limit signs in the action plan submitted under paragraphs 3 and 4 above, and must notify the Associate Administrator upon the completion of the installation of those signs.

Nothing in this Order precludes FRA from using any of the other enforcement tools available to the agency under its regulatory authority to address non-compliance with the Federal railroad safety laws, regulations, and orders by Amtrak. If necessary, FRA may issue additional emergency orders or compliance orders, impose civil penalties

against Amtrak (including individuals who may be liable for civil penalties for willful violations of the Federal railroad safety laws and regulations), or disqualify individuals from performing safety-sensitive functions.

## **RELIEF**

Amtrak, or any other passenger railroad affected by this Order, may petition for special approval to take actions not in accordance with this EO. Petitions must be submitted to the Associate Administrator, who is authorized to act on those requests without amending this EO. In reviewing any petition for special review, the Associate Administrator shall grant petitions only if the petitioner has clearly articulated an alternative action that will provide, in the Associate Administrator's judgment, at least a level of safety equivalent to that provided by compliance with this EO.

## **PENALTIES**

Any violation of this EO shall subject the person committing the violation to a civil penalty of up to \$105,000. 49 U.S.C. 21301. Any individual who willfully violates a provision stated in this order is subject to civil penalties under 49 U.S.C. 21301. In addition, any individual whose violation of this order demonstrates the individual's unfitness for safety-sensitive service may be removed from safety-sensitive service on the railroad under 49 U.S.C. 20111. If appropriate, FRA may pursue criminal penalties under 49 U.S.C. 522(a) and 49 U.S.C. 21311(a), as well as 18 U.S.C. 1001, for the knowing and willful falsification of a report required by this Order. 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 EO is effective upon Amtrak's receipt of an electronic copy, and Amtrak shall immediately initiate steps to implement this Order to comply with the Order's deadlines.

## **REVIEW**

Opportunity for formal review of this EO will be provided under 49 U.S.C. 20104(b) and 5 U.S.C. 554. Administrative procedures governing such review are 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 May 21, 2015.

Sarah Feinberg,  
Acting Administrator.

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