



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Railroad Administration**

**[Docket No. FRA-2018-0037; Notice No. 1] [Draft Safety Advisory 2018-01]**

### **Draft Safety Advisory Related to Temporary Signal Suspensions**

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

**ACTION:** Notice of draft Safety Advisory; request for comment.

**SUMMARY:** This document provides notice of FRA's intent to issue a Safety Advisory addressing railroad operations under temporary signal suspensions. The Safety Advisory would identify existing industry best practices railroads utilize when implementing temporary signal suspensions and would recommend that railroads conducting rail operations under temporary signal suspensions develop and implement procedures and practices consistent with the identified best practices. The Safety Advisory would also recommend that railroads take certain other actions to ensure the safety of railroad operations during temporary signal suspensions. FRA believes that actions consistent with the draft Safety Advisory will reduce the risk of serious injury or death both to railroad employees and members of the public. FRA invites public comment on all aspects of the draft Safety Advisory.

**DATES:** Interested persons are invited to submit comments on the draft Safety Advisory provided below on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN FEDERAL REGISTER].

**ADDRESSES:** Comments in response to this notice may be submitted by any of the

following methods:

- Web site: The Federal eRulemaking Portal, [www.Regulations.gov](http://www.Regulations.gov). Follow the Web site's online instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: Docket Management Facility, U.S. Department of Transportation, Room W12-140, 1200 New Jersey Avenue, SE, Washington, DC 20590.
- Hand Delivery: Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue, SE, Room W12-140 on the Ground level of the West Building, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Instructions: All submissions must include the agency name, docket name, and docket number for this notice, Docket No. FRA-2018-0037; Notice No. 1. Note that all comments received will be posted without change to <http://www.Regulations.gov>, including any personal information provided. Please see the Privacy Act Statement in this document.

**FOR FURTHER INFORMATION CONTACT:** Douglas Taylor, Staff Director, Operating Practices, Office of Railroad Safety, FRA, 1200 New Jersey Avenue, SE, Washington, DC 20590, telephone (202) 493-6255; or Carolyn Hayward-Williams, Staff Director, Signal & Train Control Division, Office of Railroad Safety, FRA, 1200 New Jersey Avenue, SE, Washington, DC 20590, telephone (202) 493-6399.

**SUPPLEMENTARY INFORMATION:**

**DRAFT Safety Advisory**

A review of FRA's accident/incident data shows that overall, rail transportation, both passenger and freight, is safe. However, recent rail accidents occurring in areas where a railroad has temporarily suspended the signal system, typically for purposes of maintenance, repair, or installation of additional components for a new or existing system, demonstrate that rail operations during the signal suspension present increased safety risks. Further, these accidents show that if the increased risks associated with rail operations under a temporary signal suspension are not addressed, serious unsafe conditions and practices are introduced into rail transportation.

Most recently, on February 4, 2018, both the engineer and conductor of National Railroad Passenger Corporation (Amtrak) Train P09103 were killed and 115 passengers injured,<sup>1</sup> when their train collided head-on with a CSX Transportation, Inc. freight train (Train F77703). The collision occurred at approximately 2:27 a.m. in Cayce, South Carolina when the Amtrak train, traveling south from New York City, New York, to Miami, Florida, and operating on a track warrant, was diverted from the main track through a misaligned switch. The misaligned switch sent the Amtrak train into the siding where the CSX train was parked, resulting in a head-on collision with an impact speed of 50 miles per hour (mph). The lead locomotive and six of the seven cars in the Amtrak train derailed. At the time of the accident, eight Amtrak crew members and 139 passengers were on board the train.

While the cause of the February 4, 2018, accident has not yet been determined,

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<sup>1</sup> Including 92 individuals who were transported to medical facilities for treatment and 23 people who received first aid at a triage area established near the accident site.

FRA's preliminary investigation indicates that despite the CSX train crew reporting to the train dispatcher that the switch was lined correctly, the crew did not restore the main track switch to its normal position as required by Federal regulation (49 CFR 218.105) and CSX's own operating rules. Instead, it appears the crew left the switch misaligned in the reverse position (i.e., lined for the siding, not the main line). Amtrak Train P09103 was the next train to traverse this location. The misaligned switch diverted the Amtrak train into the siding and into the standing CSX train parked on the siding. Notably, CSX signal personnel had suspended the signal system for the area where the accident occurred to upgrade the system with positive train control (PTC) technology.<sup>2</sup> Signal personnel had stopped working for the day at the time of the accident, yet the temporary signal suspension remained in place.

The National Transportation Safety Board (NTSB) is investigating this accident under its legal authority. 49 U.S.C. 1101 et seq.; 49 CFR 831.2(b). As is customary, FRA is participating in the NTSB's investigation and is also investigating the accident under its own authority. 49 U.S.C. 20902; 49 CFR 1.89(a). While NTSB has not yet issued any formal findings, on February 13, 2018, NTSB issued a Safety Recommendation Report<sup>3</sup> regarding train operations during signal suspensions to FRA. In its report, NTSB recommended that FRA issue an emergency order directing railroads to require train crews to approach switches at restricted speed when signal suspensions

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<sup>2</sup> PTC is a system designed to prevent train-to-train collisions, overspeed derailments, incursions into established work zone limits, and the movement of a train through a switch left in the wrong position, as described in subpart I of 49 CFR part 236 and 49 U.S.C. 20157(i)(5).

<sup>3</sup> NTSB, Safety Recommendation Report: Train Operation During Signal Suspension, Report No. RSR-18/01, Recommendation No. R-18-005 (Feb. 13, 2018), <https://www.nts.gov/investigations/AccidentReports/Reports/RSR1801.pdf> (NTSB Report).

are in effect and a switch has been reported relined for a main track. NTSB further recommended that after the switch position is verified, train crews should be required to report to the dispatcher that the switch is correctly lined for the main track before subsequent trains are permitted to operate at maximum-authorized speed. FRA is issuing this draft Safety Advisory consistent with the NTSB's recommendation. Issuance of a Safety Advisory allows FRA to make all railroads aware of both the safety concerns identified and information and practices that specifically address the issues raised. Moreover, issuance of a Safety Advisory provides all railroads the flexibility to review and revise their existing operating rules and practices as necessary to ensure the safety of their rail operations, without imposing rigid, and inherently limited, new requirements on the industry.

As noted in the NTSB Report, a similar accident occurred on March 14, 2016, near Granger, Wyoming, when at 9:41 p.m., a westbound Union Pacific Railroad (UP) freight train (Train KG1LAC-13) traveled from the main track through a switch into a controlled siding and collided head-on with a standing eastbound UP freight train (Train LCK41-14). The collision occurred at a recorded speed of 30 mph and the engineer of the striking train sustained minor injuries. Similar to the recent accident in Cayce, South Carolina, at the time of this 2016 accident, UP was installing and testing PTC technology on the main track. While this work was in progress, UP suspended the signals in the area and established absolute blocks intended to provide for the safe movement of trains through the area without signals. NTSB determined the probable cause of the accident was the employee-in-charge incorrectly using information from a conversation with the train dispatcher as authorization to send a train into the area where the signal system

suspension was in effect. The NTSB also found that a contributing factor was the involved conductor pilot's failure to check the switch position before authorizing the train to enter the area.

The trains involved in both the Cayce, South Carolina, and Granger, Wyoming, accidents were operating under temporary signal suspensions where the signal systems that would normally govern operations through the areas were suspended as the railroads installed additional components to comply with the statutory mandate to implement a PTC system.

FRA realizes that railroads suspend signal systems for a variety of reasons, including for example, maintenance or repair purposes, to install a new system, or to add additional components to an existing system. Although temporary signal suspensions are necessarily common occurrences, rail operations under signal suspensions should be rare and appropriately limited. FRA believes that, as exemplified by the accidents described above, rail operations under the temporary loss of protections provided by an existing signal system have a high potential of introducing new safety risks and amplify the safety risks encountered because railroad employees accustomed to the safety an existing signal system provides must operate in an environment they may not encounter on a regular basis. Indeed, a temporary signal suspension requires operating employees to immediately apply operating rules and practices different than those to which they are accustomed. Because a person's routine may include learned habits that are difficult to set aside when a temporary condition is imposed, operating employees may also need specialized instruction on the applicable rules and practices. Such risks must be addressed to provide for the safety of train operations during the loss of protection

afforded by the signal system. Moreover, if a railroad elects to operate trains in signal suspension territory, the scope of the signal suspension should be limited in both geographic area and duration and rail operations through or within the territory should be limited.

Federal regulations do not prohibit railroads from temporarily suspending existing signal systems for purposes of performing maintenance, upgrades, repairs, or implementing PTC technology. However, FRA regulations in 49 CFR part 235 require railroads to apply for FRA approval for certain discontinuances and modifications of signal systems. Specifically, FRA's regulations provide for both a formal approval process in 49 CFR 235.5 for a variety of signal system changes and also an expedited approval process in 49 CFR 235.6 for modifications directly associated with the implementation of a PTC system. Although the safety of railroad operations during temporary signal suspensions may be addressed under these approval processes, part 235 also excludes various signal system changes from FRA approval (49 CFR 235.7).

FRA's regulations also require individual railroads to adopt and comply with operating rules addressing the operation of hand-operated main track switches. See 49 CFR 218.105. Specifically, § 218.105 requires railroads to designate in writing the normal position of hand-operated main track switches and, with limited exceptions, requires those switches to be lined and locked in the designated position when not in use. That same section requires employees to conduct a job briefing before leaving a location where any hand-operated main track switch was operated and all crewmembers to communicate to confirm the position of the switch. Further, § 218.105 generally requires an employee releasing the limits of a main track authority in non-signalized territory

(including an area under temporary signal suspension) where a hand-operated switch is used to clear the main track to report to the train dispatcher that the hand-operated main track switch has been restored to its normal position and locked, prior to departing the switch's location and after conducting the required job briefing. Upon the employee's report, § 218.105 requires the train dispatcher to repeat the reported switch position information to the employee releasing the limits and requires the employee releasing the limits to confirm to the train dispatcher that the information is correct.

In addition to these regulatory requirements, virtually all railroads have adopted additional operational protections to ensure the safety of rail operations when an existing signal system is temporarily suspended. FRA reviewed the current operating practices of several railroads and engaged in discussions with these railroads to identify the industry's best safety practices related to temporary suspension of an existing signal system. As a result of this outreach, FRA believes that certain operational safeguards railroads already undertake constitute the best practices within the industry when temporarily suspending a signal system. These best practices, include:

- Take all practical measures to ensure sufficient personnel are present to continue signal work until the system is restored to proper operation. If sufficient personnel are not present, the signal suspension should be terminated until such time as sufficient personnel are on hand.
- If a railroad elects to allow train traffic through suspension limits:
  - Establish the smallest limits possible for the signal suspension (if possible, no more than three (3) control points or use phased limits to allow restoration of the signal system as work is completed);



- Minimize the duration of the signal suspension to the shortest time period possible (if possible, no more than twelve (12) hours); and
- Take all practical measures to ensure only through traffic is allowed to operate within the limits (avoiding any train meets or any moves requiring the manipulation of switches within the suspension limits).
- If any switches within the suspension limits are manipulated, consistent with 49 CFR 218.105(d), establish an effective means of verifying that all switches have been returned to the proper position prior to any train traffic operating through the limits. (For example, require spiking or clamping of switches followed by locking for through movement after use; utilize a signal employee to tend the switch and to establish agreement between assigned crewmembers and the switch tender that the switch is properly lined; and/or require the first train through the limits after the manipulation of any switch to operate at restricted speed).

**RECOMMENDATIONS:** Considering the accidents discussed above, and to ensure the safety of the Nation's railroads, their employees, and the public, FRA recommends that railroads take actions consistent with the following:

1. Develop and implement procedures and practices consistent with the industry best practices discussed above for rail operations conducted under temporary signal suspensions.
2. Inform employees of the circumstances surrounding the February 4, 2018, accident in Cayce, South Carolina, and the March 14, 2016, accident near Granger, Wyoming, discussed above, emphasizing the potential consequences

of misaligned switches and the relevant Federal regulations and railroad operating rules intended to prevent such accidents.

3. Review, and as appropriate, revise all operating rules related to operating hand-operated main track switches (including operating rules required by 49 CFR 218.105(d)), to enhance them to ensure (a) train crews and others restore switches to their normal position after use, and (b) the position of switches are clearly communicated to train control employees and/or dispatcher(s) responsible for the movement of trains through the area where the signal system is temporarily suspended. In doing so, railroads should pay particular attention to those main track switches where employees report clear of the main track to the train dispatcher.
4. Increase supervisory operational oversight and conduct operational testing on the applicable operating rules pertaining to the operation of hand-operated main track switches. This should include face-to-face initial job briefings with all train and engine (T&E) crews that will operate in any area where the signal system will be temporarily suspended.
5. Enhance instruction on the relevant operating rules concerning the operation of hand-operated main track switches in non-signaled areas, including the operating rules required by 49 CFR 218.105(d) during both initial and periodic instruction required by 49 CFR 217.11. In doing so, railroads should emphasize the applicability of the rules to area(s) where the signal system is temporarily suspended and the need to ensure and verify that all hand-operated main track

switches manipulated within any suspension limits have been returned to the proper position prior to operating any trains through the limits.

6. Stress to T&E employees the importance of thorough and accurate job briefings when operating hand-operated main track switches, particularly in areas where the signal system is temporarily suspended, and specifically when releasing main track authority. Ensure adequate processes and procedures are in place enabling clear and timely communication of switch positions between and among all dispatching, T&E, and train control employees responsible for operating, performing work, or authorizing trains to operate through areas where the signal system is temporarily suspended, including processes and procedures for communicating switch position information during shift handovers. Encourage employees, in case of any doubt or uncertainty regarding the position of such switches, to immediately contact the train dispatcher or take other appropriate action to confirm the position of the switch prior to authorizing a train to operate through the limits of the area.

FRA requests public comment on all aspects of this draft Safety Advisory.

Privacy Act Statement: Anyone can search the electronic form of all comments received into any of DOT's dockets by the name of the individual submitting the comment (or signing the comment, 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), or you may visit <http://www.regulations.gov/#!privacyNotice>.

Issued in Washington, D.C. on April 18, 2018.

**Ronald Louis Batory,**  
*Administrator.*

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