



# National Transportation Safety Board

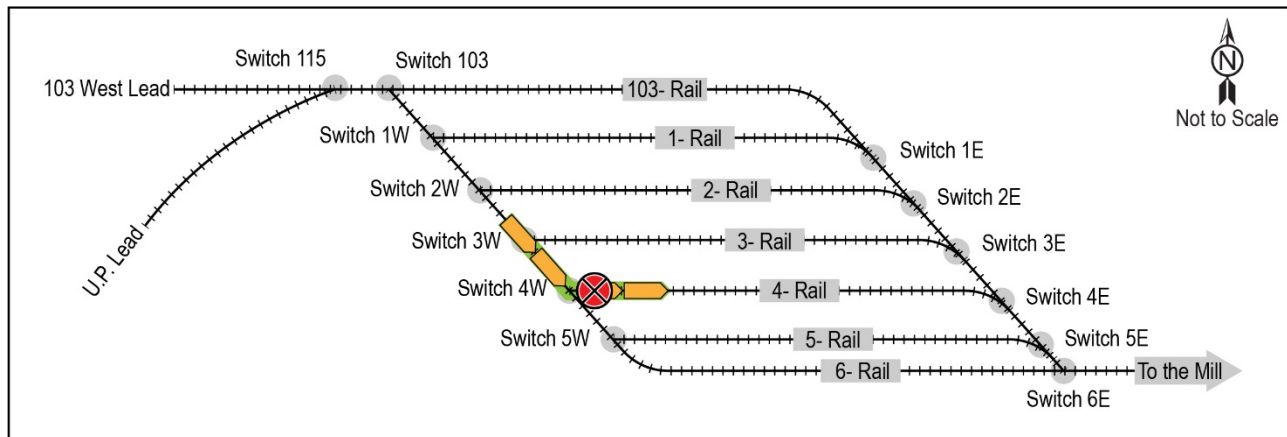
## Railroad Accident Brief

### Railroad Switching Services Employee Fatality

#### Pine Bluff, Arkansas

## The Accident

On April 3, 2015, at 9:23 p.m. central daylight time, a Railroad Switching Services (RSS) crew—a locomotive operator and a ground person—was moving 34 railroad cars onto yard track 4 at the Evergreen Packaging plant in Pine Bluff, Arkansas.<sup>1</sup> (See figure 1.) After moving the train about three car-lengths without receiving radio commands from the ground person, the operator stopped the train and disembarked. He found the ground person under the ninth car. The ground person died at the scene.



**Figure.** Diagram of the railroad yard at the Evergreen Packaging plant. The yellow train shows the switching movement that struck the ground person. The red circle shows the accident location.

## The Investigation

At 9:23 p.m., the locomotive event recorder indicated a brief rise in brake pipe pressure to about 84 pounds per square inch (psi) from where it had most recently been for about 10 seconds; 4 seconds later, the recorder showed the brake pipe pressure was dropping.

Investigators found the train line air brake valve behind the ninth car in the closed position. The brief increase in brake pipe pressure can be attributed to a closed train line air brake valve. To close the valve, the ground operator would have had to walk between the moving cars.

<sup>1</sup> (a) All times in this report are central daylight time. (b) The locomotive operator would normally be certified in accordance with Title 49 *Code of Federal Regulations (CFR)* Part 240; however, the Federal Railroad Administration (FRA) had determined the regulation did not apply to this facility. (c) A third person was assigned by the railroad to the crew but was not in the area where the accident occurred.

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## Site Description

The Evergreen Packaging yard has seven west-to-east tracks and switching leads along the southwest and the northeast sides. At the west end, the yard is connected to the Union Pacific Railroad by track 115. No signals are on the yard tracks, and the maximum authorized speed is 5 mph.

## Personnel Information

### *Ground Person*

The ground person was hired on December 2, 2013. According to the RSS records, he had completed training, possessed current certifications, and did not have any disciplinary actions.

### *Locomotive Operator*

The operator was hired on March 20, 2015. The RSS could not locate any training records; there was no record of a disciplinary action.<sup>2</sup>

## Work/Rest Cycle

### *Ground Person*

The ground person was off duty for 11 hours 50 minutes before returning to duty at 5:00 p.m. on the day of the accident. He had been on duty for 4 hours 23 minutes when the accident occurred.

### *Locomotive Operator*

The operator was off duty for 12 hours before going on duty at 5:00 p.m. the day of the accident. He had been on duty for 4 hours 23 minutes when the accident occurred.

## Medical Factors – Toxicology

### *Ground Person*

The autopsy of the ground person identified no significant medical conditions. The cause of death was multiple traumatic injuries. Postaccident toxicology testing was limited to bile and liver because other specimens were not available. Hydrocodone and oxycodone (0.166 microgram/milliliter [ug/ml]) were found in the bile; oxycodone (0.414 ug/gram [g]) and tetrahydrocannabinol carboxylic acid (0.0942 ug/g) were identified in the liver.

The toxicological evidence indicates that the ground person had ingested two different opioids: hydrocodone and oxycodone; it is not known if they were prescribed. However, there are no established postmortem liver levels for either opioid that correlate with antemortem blood levels or

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<sup>2</sup> Title 49 *CFR* Part 240 prescribes the minimum safety standards for the eligibility, training, testing, certification, and monitoring of all locomotive engineers to whom it applies. This part does not restrict a railroad from adopting and enforcing additional or more stringent requirements not inconsistent with this part. The qualifications for locomotive engineers prescribed in this part pertain to any person who operates a locomotive, unless that person is specifically excluded by a provision of this part, even though the job classification title may be other than that of locomotive engineer.

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impairment.<sup>3</sup> Therefore, it is not possible to determine if the opioids contributed to the ground person's behavior leading up to the accident.

Tetrahydrocannabinol carboxylic acid, the primary (inactive) metabolite of tetrahydrocannabinol (THC) was identified in the liver, but no parent drug (THC) was found. Although no blood was available for testing, these toxicological findings indicate there was little to no THC present in the ground person's blood at the time of the accident. In addition, the absence of THC in the liver indicates the ground person's most recent use of THC was several hours to days in the past. Therefore, there is no evidence to suggest the ground person was impaired by the effects of THC at the time of the accident.

### **Operator**

The train operator's pre-employment health examination on March 17, 2015, did not identify any medical conditions. Postaccident drug testing performed on April 4, 2015, at 12:20 a.m., identified methamphetamine (7,613 nanograms [ng]/ml) and its primary (active) metabolite amphetamine (909 ng/ml) in his urine. Because of issues related to individual metabolism rates, kidney function, and hydration levels (which can concentrate or dilute urine), there is no reliable method for calculating blood levels from urine levels and no way to determine when the identified methamphetamine was used or if the operator was affected by the psychoactive effects of methamphetamine or its metabolite amphetamine at the time of the accident.

### **Drug Testing**

There is toxicological evidence that the operator and the ground person in this accident had used impairing substances, but it could not be determined if impairment from these substances contributed to the accident. Although a clear connection cannot be drawn between drug use and the probable cause of this accident, the presence of impairing substances is alarming. Generally, the use of impairing substances increases the risk of behavioral and cognitive impairment, which, in turn, increases the risk of accidents.

Random drug testing is a deterrent to employee drug usage if conducted for a broad spectrum of impairing substances at frequent intervals for numerous employees. The National Transportation Safety Board (NTSB) believes that properly designed and implemented random drug testing provides an essential layer of safety management, especially for employees in safety-sensitive roles. Just before the accident, Evergreen Packaging hired a new contractor with a random drug-testing program; however, the program had not been implemented at the Evergreen Packaging facility when the accident occurred.

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<sup>3</sup> S.R. Botch, R.D. Johnson, A.K. Chaturvedi, and R.L. Lewis, *Distribution of Oxycodone in Postmortem Fluids and Tissues* DOT/FAA/AM-10/11. 2010; [Distribution of Oxycodone in Postmortem Fluids and Tissues](http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA531004) (<http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA531004>), accessed October 26, 2015.

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## Safety Issues

### ***Rules Compliance***

The known actions of the operator and the ground person were evaluated in the context of information from the locomotive event recorder and the operator's interview.<sup>4</sup> The safe method of switching cars generally involves a crewmember on the ground (in this case, the ground person) who instructs the controller of the locomotive (in this case, the operator) to stop the cars to be disconnected on the intended track. Once the train has stopped, the engineer establishes three-point protection to ensure that the equipment does not inadvertently move.<sup>5</sup> The ground person will then reach between the cars and turn the valve nearest to the engine to the closed position. This action traps air in the air brake system of the last car in the train. The ground person will then step to the side of the car, pull up on the cutting lever to uncouple the cars, and instruct the engineer to move.<sup>6</sup> The cars remaining on the track will go into emergency braking, because the open angle cock will release the brake pipe air.

There is an alternate and unapproved method of switching cars that involves a ground person reaching between cars and turning the angle cock to the closed position while the cars are being shoved. The ground person lifts the cutting lever and instructs the engineer to change directions. When the engineer stops the movement to change direction, the equipment uncouples and temporarily moves farther into the intended track while in emergency braking. With proper timing, the cars will stop on the track near where the ground person intended. This method is a fast way to switch cars; however, it is dangerous and prohibited.

Based on the available evidence, the ground person likely used the latter method to switch the cars. At the ninth car, the ground person reached between moving cars and turned the angle cock to the closed position. Although there was no witness or security camera footage, the ground person probably tripped, slipped, or fell within the track gage and was hit by a moving car or cars.<sup>7</sup> Had the ground person and the operator initiated the three-point protection as required, they would likely have switched the cars safely.

### ***Cellular Telephone Activity***

The ground person was not using his cellular telephone at the time of the accident. However, investigators learned that the operator had used two cellular telephones multiple times after he went on duty at 5:00 p.m. In the critical period from 9:20 p.m. to 9:23 p.m., just prior to the accident, the

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<sup>4</sup> No security cameras recorded the accident. No one witnessed the actions of the ground person. The radio communications between the operator and the ground person were not recorded.

<sup>5</sup> RSS rule 5.3.2 defines *three-point protection* as a procedure performed by the operator that provides protection for employees performing work in the "red zone" area where the track is fouled. Three-point protection is accomplished by (1) placing the independent brake in the fully applied position and/or making a brake pipe reduction sufficient to hold engine and train, (2) centering the reverser handle, and (3) switching the generator field to the off position.

<sup>6</sup> A *cutting lever* (also called a cut lever) is attached to the coupler, allowing the operator to uncouple one car from another.

<sup>7</sup> A postaccident photograph taken by the Jefferson County Sheriff's Department showed what appeared to be a rubber boot wedged between rails. The Arkansas Crime Laboratory in Little Rock, Arkansas, noted that the ground person was clad in only one high-top rubber boot. A personal effects inventory generated by that office stated, "Boot, right, found lodged in frog between switches to tracks 103 and 104." (A *frog* is the inner, nonmoveable section of a switch where two rails cross each other.)

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operator either sent or received six text messages on one cellular telephone, and he either sent or received three text messages on another cellular telephone. Although the RSS rules permit the use of a cellular telephone with appropriate approval, investigators found no evidence that the locomotive operator was authorized to use his cellular devices to discuss nonemergency topics on the job site.<sup>8</sup> While he responded appropriately to the information provided by the ground person, the locomotive operator was in an active operational setting while using an electronic device prohibited by his employer.

### Oversight

#### *Evergreen Packaging Oversight*

Evergreen Packaging contracted its rail yard maintenance and switching operations to Grace Railroad Contractors on March 1, 2015, which subcontracted the switching operations to RSS.

#### *Federal Oversight*

The accident occurred on a property that is considered a “plant railroad” under Federal Railroad Administration (FRA) regulations. Although the FRA defines plant railroads in different parts of the *Code of Federal Regulations (CFR)*, the FRA issued a clarification to address questions about 49 *CFR* Part 240 (qualification and certification of locomotive engineers). The FRA historically excluded railroads with entire operations that are confined to an industrial installation—plant railroads, such as those in steel mills that do not go beyond the plant’s boundaries. However, in 49 *CFR* Parts 213 and 234, the FRA has included the track immediately adjacent to the plant or installation if the plant railroad leases the track from the general system railroad and the lease provides for (and actual practice entails) the exclusive use of that track by the plant railroad and the general system railroad for purposes of moving cars shipped to or from the plant. A plant or installation that operates a locomotive to switch or move cars for other entities—even if solely within the confines of the plant or installation, rather than for its own purposes or industrial processes—will not be considered a plant railroad because the performance of such activity makes the operation part of the general railroad system of transportation.<sup>9</sup> (For additional information, see the appendix of this brief.)

The investigation of this accident revealed several safety issues, including:

- illicit drug use by employees who worked in an operational yard setting
- inappropriate use of cell phones
- employees engaged in an unapproved and dangerous switching procedure
- an employee who removed himself from the switch crew

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<sup>8</sup> Although regulations were not enforced at this plant railroad, 49 *CFR* 220.305, Use of Personal Electronic Devices, requires that railroad operating employees must have personal electronic devices turned off with any earpiece removed when on a moving train; when any member of the crew is on the ground or riding rolling equipment during a switching operation; or when any railroad employee is assisting in preparation of the train for movement. Title 49 *CFR* 220.307 contains similar restrictions for railroad-supplied electronic devices.

<sup>9</sup> The Evergreen Packaging facility did not move cars for other entities.

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- the use of inappropriate footwear in a switching yard environment<sup>10</sup>

While these safety issues could occur on a railroad property under FRA oversight, the lack of such authority could increase the occurrence of incidents and accidents by creating an unsafe environment. Because of the lack of routine FRA inspections, employees who work at plant railroads may be more inclined to engage in unsafe activities.

In the March 17, 1978, *Federal Register*, the FRA withdrew its notice of proposed rulemaking with respect to railroad occupational safety and health standards.<sup>11</sup> The FRA terminated the rulemaking proceeding and issued a policy statement concerning the relationship between the respective jurisdictions of the FRA and the Occupational Safety and Health Administration (OSHA).

The notice stated:

[The] FRA must exercise a continuing role in the area of railroad occupational safety and health. However, given the present staffing level for field investigation and inspection, the FRA has determined that, at this time, it would not be in the best interests of the public and of railroad safety for this agency to become involved extensively in the promulgation and enforcement of a complex regulatory scheme covering in minute detail, as do the OSHA standards, working conditions which, although located within the railroad industry, are in fact similar to those of any industrial workplace.

The *Federal Register* notice also indicated that while it addressed jurisdictional issues between the FRA and OSHA, it did not intend to address the railroads that are not in the general system. The notice also stated that it is essential that the safety of railroad operations be the responsibility of a single agency and that the FRA, as the primary regulatory agency, has exercised and continues to exercise its jurisdiction over the safety of railroad operations. Finally, with respect to jurisdictional aspects of the FRA and OSHA, the notice stated:

...the primary intent of FRA is to assure an effective and coherent railroad occupational safety and health program. We believe the policy set forth in this document will assure that each of the principal Federal agencies charged with the responsibility for carrying out this program, that is, FRA and OSHA, will concentrate its efforts in those areas in which it possesses the greatest experience and expertise. In those cases in which there may be some question as to which is the primary regulatory agency, cooperative efforts between the two agencies should avoid the creation of regulatory gaps on the one hand, or unnecessary duplication on the other. At any time that a hazardous working condition impacts upon the overall safety of railroad operations, FRA will take the initiative in developing a proper regulatory response.

The NTSB contends that the FRA can and should extend its role as a regulatory and enforcement entity to plant railroads for two reasons. First, the FRA has asserted in the

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<sup>10</sup> RSS rule 2.7, "Leather Steel Toe Safety Boots" states: "Leather work boots will be worn by all employees while on duty apart from office workers who are not performing work on or about the tracks. These leather work boots will be lace-up, a minimum of 6 inches high, provide ankle support, have sturdy soles, steel toes, and defined heels. Canvas, suede, hiking or tennis shoe styles will not be allowed when performing work on or about tracks."

<sup>11</sup> For additional information, see *Federal Register* 43, no. 50 (March 14, 1978): 10583.

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1978 *Federal Register* notice that OSHA standards cover railroad safety in “minute detail,” which is contrary to what railroad safety data show. OSHA’s website reveals that from 1984 to 2013 the “plant railroads” category contained 695 accidents in which an employee of an industrial company was hurt while working around either railroad tracks or railroad equipment. The “not plant railroads” category contained 346 accidents, and the “could not be determined” category contained 955 railroad-related accidents. This difference indicates an inconsistency in the way that data are collected by one of the two federal agencies responsible for tracking railroad accidents and incidents.

At the request of the NTSB, the FRA surveyed its regional offices to assess the approximate number of plant railroads and how often the regional inspectors visited those properties. (See table.) The survey found there are more than 1,300 known plant railroad yards throughout the United States, and nearly 70 percent of them have never been visited by an FRA inspector. The survey also revealed that the FRA was aware of about 20 casualties in plant railroad yards that occurred over the past 5 years.

**Table.** FRA survey by region of inspector visits to plant railroad yards.

FRA Region	Number of Plant Yards	No Visits	Occasional Visits <sup>a</sup>	Regular Visits <sup>b</sup>
1	20	14	5	1
2	250	132	104	13
3	113	51	62	0
4	97	83	3	11
5	114	56	1	1
6	181	76	94	11
7	21	14	7	0
8	548	506	41	1
<b>Total</b>	<b>1,344</b>	<b>932</b>	<b>317</b>	<b>38</b>

<sup>a</sup> *Occasional* means that FRA visits have occurred in the past, but there are no planned visits for the future unless a need arises that interests the FRA regional inspector. The FRA did not specify a time interval for an occasional visit.

<sup>b</sup> *Regular* means that the FRA visited the yards on a planned schedule; however, the schedules likely varied from yard to yard. The FRA did not specify a time interval for a regular visit.

Since March 17, 1978, the FRA has stated that it will take the initiative in developing a proper regulatory response when a hazardous working condition impacts the safety of railroad operations. The FRA also stated that, as of March 29, 2017, the FRA’s staffing levels for field inspections and investigations are insufficient and negatively impact the public and railroad safety.

## FRA National Inspection Plan

In December 2004, the US Department of Transportation (DOT) Office of the Inspector General recommended that the FRA submit to the DOT a comprehensive plan for implementing a program that uses available data to focus inspection activities. The following year, the FRA issued

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the *National Rail Safety Action Plan*, which outlined the development and implementation of a new *National Inspection Plan*.<sup>12</sup> Under this plan, FRA inspectors focus their efforts on locations that, according to data-driven models, are likely to have safety problems allowing the FRA to better target the greatest safety risks. The plan provides guidance to each regional office on how its inspectors—who specialize in track, operating practices, motive power and equipment, signal and train control, and hazardous materials—should divide their work by railroad and location using the following three steps:

In the first step, FRA headquarters produces an initial baseline plan for each of the agency's eight regions. This plan specifies, by inspection discipline, numeric goals for the level of inspection activity to allocate to each railroad, by State. These numeric goals are derived from models—based on trend analyses of accident, inspection, and other data—that predict, by inspection discipline, locations where train accidents and incidents are likely to occur within each region and provide the optimal allocation of inspection resources to prevent accidents.

In the second step, the regional administrators may adjust the goals for their respective regions based on local knowledge and emerging issues. In practice, the regional administrators typically designate their deputy regional administrators in evaluating and adjusting, as necessary, the *National Inspection Plan* goals, often with assistance from specialists.

The initial adjustments typically take place in September before the new fiscal year starts. The regional administrators have another opportunity to make adjustments after six months into the fiscal year. The intent of the mid-year adjustments, if deemed necessary, is to allow regions to respond properly to new and/or unexpected events such as major accidents that would require shifting inspection resources on a short-term basis.

In step 3, once a new fiscal year starts, FRA monitors how the regions are meeting their inspection goals. The *National Inspection Plan* is implemented through a web-based interface that allows both the headquarters and the regions to monitor the progress in field inspections during a fiscal year. Due to recent unanticipated developments in the rail industry, the regions are allowed to provide brief explanations on why they are not following their plans.

Based on the *Federal Register* notice and the FRA's *National Inspection Plan*, it is clear the FRA has the authority to regulate all aspects of railroad safety, regardless of staffing levels. The NTSB contends that the safety of plant railroads would be enhanced if the FRA conducted more inspections at these facilities. Therefore, the NTSB recommends that OSHA develop and use a process for forwarding notifications of railroad-related incidents and accidents involving railcars, locomotives, and track to the FRA. The NTSB also recommends that the FRA review and evaluate the reports received from OSHA and use the information contained in them to modify the *National Inspection Plan* to include more plant railroads in the FRA's routine inspections.

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<sup>12</sup> Federal Railroad Administration, *National Inspection Plan* (Washington, DC: US Department of Transportation, Federal Railroad Administration, 2005).



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## Postaccident Actions

In August 2015, RSS qualified its crewmembers on the General Code of Operating Rules and certified them as engineers and conductors in accordance with 49 *CFR* Parts 240 and 242.

On April 11, 2015, RSS released the following general notices to their employees:

- Please be aware of tripping hazards in the class yard, and use caution when switching, walking, or working in this area.
- Railroad Switching Services in Pine Bluff, Arkansas, does not allow for the getting onto or off (of) moving equipment except in the case of an emergency.
- Muck boots or rubber boots are not allowed for our employees. You will wear a boot with a defined 1” heel, at least 6” in height, and (it) shall be made of leather. This boot will also be lace up and have steel toe protection.
- The crew phone may only be used when the locomotive is not in motion and when switching operations are not underway. If you need to answer a call or make a call, stop all movements and utilize three-point protection.
- No personal cellular devices may be used except in case of emergency or while at rest in the office.

## Probable Cause

The National Transportation Safety Board determines that the probable cause of the accident was the switching crew’s failure to establish the required safety protections before the ground person stepped between the railcars. Contributing to the accident was the minimal plant railroad safety oversight exercised by the Federal Railroad Administration.

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## Safety Recommendations

As a result of its investigation, the National Transportation Safety Board makes the following safety recommendations:

### To the Occupational Safety and Health Administration:

Develop, and use, a process for forwarding notifications of railroad-related incidents and accidents involving railcars, locomotives, and track to the Federal Railroad Administration. (R-18-008)

### To the Federal Railroad Administration:

Review and evaluate the notifications received from the Occupational Safety and Health Administration, and use the information contained in them to modify the National Inspection Plan to include more plant railroads in your routine inspections. (R-18-009)

### Adopted: March 1, 2018

For more details about this accident, visit the [NTSB docket](#) and search for NTSB accident identification number DCA15FR007.

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The NTSB has authority to investigate and establish the facts, circumstances, and cause or probable cause of a railroad accident in which there is a fatality or substantial property damage, or that involves a passenger train. (49 U.S. Code § 1131 - *General authority*)

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties . . . and are not conducted for the purpose of determining the rights or liabilities of any person.” 49 *Code of Federal Regulations*, Section 831.4. Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report. 49 *United States Code*, Section 1154(b).

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## Appendix:

### Excerpt from 49 *CFR* Part 209, Appendix A to Part 209—Statement of Agency (FRA) Policy Concerning Enforcement of the Federal Railroad Safety Laws

#### THE EXTENT AND EXERCISE OF FRA'S SAFETY JURISDICTION

The Safety Act and, as amended by the RSIA, the older safety statutes apply to “railroads.” Section 202(e) of the Safety Act defines railroad as follows:

The term “railroad” as used in this title means all forms of non-highway ground transportation that run on rails or electromagnetic guideways, including (1) commuter or other short-haul rail passenger service in a metropolitan or suburban area, as well as any commuter rail service which was operated by the Consolidated Rail Corporation as of January 1, 1979, and (2) high speed ground transportation systems that connect metropolitan areas, without regard to whether they use new technologies not associated with traditional railroads. Such term does not include rapid transit operations within an urban area that are not connected to the general railroad system of transportation.

Prior to 1988, the older safety statutes had applied only to common carriers engaged in interstate or foreign commerce by rail. The Safety Act, by contrast, was intended to reach as far as the Commerce Clause of the Constitution (i.e., to all railroads that affect interstate commerce) rather than be limited to common carriers actually engaged in interstate commerce. In reporting out the bill that became the 1970 Safety Act, the House Committee on Interstate and Foreign Commerce stated:

The Secretary's authority to regulate extends to all areas of railroad safety. This legislation is intended to encompass all those means of rail transportation as are commonly included within the term. Thus, “railroad” is not limited to the confines of “common carrier by railroad” as that language is defined in the Interstate Commerce Act.

H.R. Rep. No. 91-1194, 91st Cong., 2d Sess. at 16 (1970).

FRA's jurisdiction was bifurcated until, in 1988, the RSIA amended the older safety statutes to make them coextensive with the Safety Act by making them applicable to railroads and incorporating the Safety Act's definition of the term (e.g., 45 *U.S.C.* 16, as amended). The RSIA also made clear that FRA's safety jurisdiction is not confined to entities using traditional railroad technology. The new definition of “railroad” emphasized that all non-highway high speed ground transportation systems—regardless of technology used—would be considered railroads.

Thus, with the exception of self-contained urban rapid transit systems, FRA's statutory jurisdiction extends to all entities that can be construed as railroads by virtue of their providing non-highway ground transportation over rails or electromagnetic guideways, and will extend to future railroads using other technologies not yet in use. For policy reasons, however, FRA does not exercise jurisdiction under all of its regulations to the full extent permitted by statute. Based on its knowledge of where the safety problems were occurring at the time of its regulatory action and its assessment of the practical limitations on its role, FRA has, in each regulatory context, decided that the best option was to regulate something less than the total universe of railroads.

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For example, all of FRA's regulations exclude from their reach railroads whose entire operations are confined to an industrial installation (i.e., "plant railroads"), such as those in steel mills that do not go beyond the plant's boundaries. e.g., 49 *CFR* 225.3(a)(1) (accident reporting regulations). Some rules exclude passenger operations that are not part of the general railroad system (such as some tourist railroads) only if they meet the definition of "insular." e.g., 49 *CFR* 225.3(a)(3) (accident reporting) and 234.3(c) (grade crossing signal safety). Other regulations exclude not only plant railroads but all other railroads that are not operated as a part of, or over the lines of, the general railroad system of transportation. e.g., 49 *CFR* 214.3 (railroad workplace safety).

By "general railroad system of transportation," FRA refers to the network of standard gage track over which goods may be transported throughout the nation and passengers may travel between cities and within metropolitan and suburban areas. Much of this network is interconnected, so that a rail vehicle can travel across the nation without leaving the system. However, mere physical connection to the system does not bring trackage within it. For example, trackage within an industrial installation that is connected to the network only by a switch for the receipt of shipments over the system is not a part of the system.

Moreover, portions of the network may lack a physical connection but still be part of the system by virtue of the nature of operations that take place there. For example, the Alaska Railroad is not physically connected to the rest of the general system but is part of it. The Alaska Railroad exchanges freight cars with other railroads by car float and exchanges passengers with interstate carriers as part of the general flow of interstate commerce. Similarly, an intercity high speed rail system with its own right of way would be part of the general system although not physically connected to it. The presence on a rail line of any of these types of railroad operations is a sure indication that such trackage is part of the general system: the movement of freight cars in trains outside the confines of an industrial installation, the movement of intercity passenger trains, or the movement of commuter trains within a metropolitan or suburban area. Urban rapid transit operations are ordinarily not part of the general system, but may have sufficient connections to that system to warrant exercise of FRA's jurisdiction (see discussion of passenger operations, below). Tourist railroad operations are not inherently part of the general system and, unless operated over the lines of that system, are subject to few of FRA's regulations.

The boundaries of the general system are not static. For example, a portion of the system may be purchased for the exclusive use of a single private entity and all connections, save perhaps a switch for receiving shipments, severed. Depending on the nature of the operations, this could remove that portion from the general system. The system may also grow, as with the establishment of intercity service on a brand new line. However, the same trackage cannot be both inside and outside of the general system depending upon the time of day. If trackage is part of the general system, restricting a certain type of traffic over that trackage to a particular portion of the day does not change the nature of the line—it remains the general system.

Of course, even where a railroad operates outside the general system, other railroads that are definitely part of that system may have occasion to enter the first railroad's property (e.g., a major railroad goes into a chemical or auto plant to pick up or set out cars). In such cases, the railroad that is part of the general system remains part of that system while inside the installation; thus, all of its activities are covered by FRA's regulations during that period. The plant railroad itself, however, does not get swept into the general system by virtue of the other railroad's activity, except to the extent it is liable, as the track owner, for the condition of its track over which the other railroad

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operates during its incursion into the plant. Of course, in the opposite situation, where the plant railroad itself operates beyond the plant boundaries on the general system, it becomes a railroad with respect to those particular operations, during which its equipment, crew, and practices would be subject to FRA's regulations.

In some cases, the plant railroad leases track immediately adjacent to its plant from the general system railroad. Assuming such a lease provides for, and actual practice entails, the exclusive use of that trackage by the plant railroad and the general system railroad for purposes of moving only cars shipped to or from the plant, the lease would remove the plant railroad's operations on that trackage from the general system for purposes of FRA's regulations, as it would make that trackage part and parcel of the industrial installation. (As explained above, however, the track itself would have to meet FRA's standards if a general system railroad operated over it. See 49 *CFR* 213.5 for the rules on how an owner of track may assign responsibility for it.) A lease or practice that permitted other types of movements by general system railroads on that trackage would, of course, bring it back into the general system, as would operations by the plant railroad indicating it was moving cars on such trackage for other than its own purposes (e.g., moving cars to neighboring industries for hire).