

**BROTHERHOOD OF LOCOMOTIVE ENGINEERS
AND TRAINMEN**

*A DIVISION OF THE RAIL CONFERENCE
INTERNATIONAL BROTHERHOOD OF TEAMSTERS*

SAFETY TASK FORCE

INDEPENDENCE, OHIO

BEFORE THE NATIONAL TRANSPORTATION SAFETY BOARD

NTSB Accident Number: RRD21LR009

Class: Regional

April 7, 2021

Proposed findings, probable cause, and safety recommendations, in connection with the switching fatality that occurred on the Burlington Northern Santa Fe (“BNSF”) Railway within the Dyno Nobel facility in Louisiana, Missouri

S. J. Bruno, BLET-Safety Task Force, National Chairman
B.H. Fransen, BLET-Safety Task Force, Party Spokesman

Final Submission

The Brotherhood of Locomotive Engineers and Trainmen (“BLET”), a division of the International Brotherhood of Teamsters (“IBT”), was granted party status by the Board in the above-referenced investigation. BLET respectfully submits these proposed, findings, probable cause, and safety recommendations to the Board for consideration.

Accident Synopsis

On April 7, 2021, at approximately 3:25 p.m. Central Daylight Time (“CDT”) ¹, a BNSF Railway Conductor was fatally injured while switching railcars in the Dyno Nobel ² facility near Louisiana, Missouri (“MO”). The Dyno Nobel facility is located on the Hannibal Subdivision of the Heartland Division of the BNSF Transportation Network. According to local weather reports, the weather was partly cloudy with a temperature of 72° F with winds of twenty (20) miles per hour (“MPH”) from the southeast.



Figure 1 – Photo of accident site (Photo courtesy of NTSB)

¹ All times throughout this report will be Central Daylight Time.

² Dyno Nobel, Inc. owns and operates an ammonium nitrate manufacturing facility near Louisiana, Missouri. At this facility, ammonia is used as a raw material to make nitric acid

Accident Narrative

Train Information:

The train crew of BNSF Local No. 8371 consisted of a Locomotive Engineer, Conductor, and Brakeman. On the day of the accident, the train crew went on duty at 11:00 a.m. This was the regular assignment for both the Locomotive Engineer and the fatally injured Conductor. The Brakeman was not regularly assigned to this job, but he had worked this assignment frequently.

BNSF Local No. 8371 is a regularly assigned job that originates and terminates in West Quincy, MO and is primarily responsible for dropping off and picking up railcars at industries between West Quincy, MO and Louisiana, MO. At the time of the accident, BNSF Local No. 8371 consisted of two (2) locomotives and twenty (20) empty rail cars, with the BNSF locomotive No. 3194 being used as the controlling locomotive. The train was 1,233 feet in length and weighed a total of 845 tons.

Method of Operation:

While operating on the Dyno Nobel industry track, BNSF Local No. 8371 was operating under the General Code of Operating Rules (“GCOR”) rules that govern movement of trains and equipment on other than main tracks.³ These rules require all train movements to be made at a speed that permits stopping within half of the range of vision, and includes specific provisions for controlling the movement, maintaining vigilance and maximum authorized speeds. The Dyno Nobel industry track has a maximum authorized speed (“MAS”) of ten (10) MPH.

BNSF Railway Documents for Train, Yard & Engine Employees (“TY&E”):

Below is the list of the documents governing TY & E employees provided by BNSF Railway for this accident investigation:

- General Code of Operating Rules (“GCOR”) – 8th Edition - *effective April 1, 2020*
- BNSF Heartland Division Timetable No.3 ⁴- *effective August 5, 2020*
- BNSF System Special Instructions No.1 – *effective April 1, 2020*

³ See Appendix A at the end of this report (page 13).

⁴ See Appendix B at the end of this report for relevant section of timetable (pages 14-19).

- BNSF Air Brake and Train Handling Rules No.7 – *effective February 1, 2018*
- General Track Bulletins for the BNSF Local No. 8371



Figure 2 – Schematic of accident site (Courtesy of NTSB)

Movements of BNSF Local No. 8371:

The train crew of BNSF Local No. 8371 went on duty at 11:00 a.m. on April 7, 2021, in West Quincy, MO. The train crew stated that upon going on duty, they conducted a job safety briefing⁵ and then proceeded to prepare their train for departure. The BNSF Local No. 8371 arrived at Louisiana, MO at approximately 3:05 p.m.

⁵ “Job safety briefing” refers to a briefing among crew members that includes a discussion of the tasks to be performed, as well as the rules and/or special instructions they are governed under.

Upon arrival at Louisiana, MO, the crew was required to make a shoving movement⁶ for approximately one (1) mile to the Dyno Nobel facility. During this shove movement, the Conductor and Brakeman rode on a flat car that had been modified into a “shoving platform” for the crew to ride on, using handheld radios to convey commands to the Locomotive Engineer. At milepost (“MP”) 92.9, the Brakeman dismounted and lined the switch for movement into the Dyno Nobel plant. When the switch had been lined, the Conductor remained on the shoving platform and they began the movement into the industry track .



Figure 3 – Example of converted shove platform (*Courtesy of internet*)

At approximately 3:15 p.m., the Conductor stopped the shoving movement, dismounted, and hand operated the Dyno Nobel industry track derail and placed it into the non-derailing position. The Conductor then walked ahead of the movement and checked the positions of other switches. At 3:24 p.m., the Conductor announced over the radio, “Conductor on the ground protecting, back twenty (20) cars”. The Locomotive Engineer began the shove movement, and the locomotive’s speed varied but never exceeded nine (9) MPH. The Conductor was controlling the movement with the Locomotive Engineer by radio while standing on the ground. After approximately ten (10) car lengths,⁷ radio communication between the Conductor and the Locomotive Engineer ceased.

The Locomotive Engineer stopped the movement, at which point the Brakeman observed the Conductor lying on the ground beside the track between the seventh (7th) and eighth (8th) cars. The

⁶ “Shoving movement” refers to a process of pushing railcars.

⁷ One (1) car length in railroad terms constitutes approximately fifty (50) feet.

Brakeman announced “Emergency” over the radio, and the Locomotive Engineer dialed 911 on the locomotive radio. ⁸

Walking conditions at Dyno Nobel facility:

The track at the location of the accident was maintained by the Dyno Nobel facility. Investigators took measurements and performed a post-accident walking inspection of the track in the area of the accident.



Figure 4 - Photo of the accident site. The red arrow indicates the location of the slide marks found by the coroners. The black arrow indicates the location of the final resting position of the Conductor. *(Courtesy of NTSB)*

During the inspection of the area, it was noted that large rocks were located on the south side of the track near a decline leading to a drainage ditch (in the area where the Conductor was walking). The measurements taken revealed the distance from the end of the rail ties to the large rocks only allowed twenty-one (21) inches of walking space.

⁸ The “emergency” call-in code on locomotive radios is “911” throughout the entire BNSF transportation network.



Figure 5 – Photos showing walking condition at the Dyno Nobel facility. The photo on the left shows the width of the walking space between the edge of the railroad ties and the adjacent rocks where the slide marks in the ballast were found. The photo on the right shows the walking space for an average sized person. *(Courtesy of NTSB)*

The Missouri Department of Transportation (“MoDOT”) is the state government organization in charge of maintaining roadways of the U.S. state of Missouri under the guidance of the Missouri Highways and Transportation Commission. MoDOT publishes the State requirements for the construction, reconstruction, and maintenance of walkways for industrial railway facilities. Specifically, Section 7 CSR 265-8.110 - Walkway Safety Standards at Industrial Tracks states: ⁹

CSR 265-8.110 WALKWAY SAFETY STANDARDS AT INDUSTRIAL TRACKS

This rule prescribes the minimum safety standards for the construction, reconstruction and maintenance of walkways adjacent to railroad industrial trackage within Missouri.

(1) For purposes of this rule, industrial railroad trackage means that trackage owned, leased or used by any person, firm or corporation, other than a railroad as defined by section 386.020, RSMo, which connects with the tracks of a railroad and on which a railroad switches or operates cars or locomotives within Missouri.

(2) Except in cases in which the division finds that construction or reconstruction is

⁹ See Appendix C at the end of this report (pages 20-21).

impracticable, unnecessary or where existing in structures or tracks prevent construction, walkways shall be constructed along each side of industrial railroad trackage a minimum of eight feet six inches (8'6") from the center of track measured at right angles to the center. Walkways shall be reasonably level with the tip of the railroad ties and beginning at the end of the railroad ties shall not exceed a drop of two inches (2") per foot to provide drainage and a surface reasonably level on which to walk as well as permit the safe performance of trackside duties, taking into consideration existing structures and tracks. (Emphasis added)

- (3) Walkways along industrial railroad trackage shall be constructed of and maintained with materials that conform to the specifications of the railroad corporation which switches or operates cars or locomotives on and over the trackage; if no specifications are available, walkways shall be constructed of suitable chat or fines not to exceed one inch (1") in diameter.*
- (4) Walkways along industrial railroad trackage as well as the area between the rails shall be kept free of vegetation or debris that would interfere with the performance by railroad employees of normal trackside duties.*

The State regulatory requirement is clear and the location where the employee was fatally injured is not in compliance with the State regulation. The record of the accident investigation is devoid of any existing waivers issued to the facility. Nor are there any records of State inspections. The BNSF employees are not trained by BNSF, or any other employer for that matter, on the requirements of the State regulations for walkways within Industrial Railroad tracks.

It is incumbent on the employer to provide a safe working environment for their employees. Any attempt to blame the employee for not recognizing the unsafe working condition and decline to work the facility is misplaced. There isn't any evidence that BNSF required Dyno Noble to maintain their facility in accordance with state safety requirements to protect its employees.

Apparently, BNSF never inspected the facility for compliance before it agreed and assigned its employees to service the Dyno Noble facility.

Switching Operations Fatality Working Group:

The Switching Operations Fatality Analysis (“SOFA”) Working Group is an established, voluntary, non-regulatory, workplace safety partnership sponsored by the Federal Railroad Administration (“FRA”). The SOFA Working Group issues regular Safety Alerts to help achieve its goal of eliminating switching injuries and fatalities. FRA formed the group in February 1998 to review switching operations accident reports and to develop recommendations for reducing fatalities and injuries.

On May 25, 2021, following the accident in Newington, NH, the SOFA Working Group issued a safety alert ¹⁰ that focused on the fact that there had been three (3) switching fatalities in 2021, which included the April 7, 2021, accident near Louisiana, Missouri.

The safety alert was issued to remind all rail employees to “...*remain vigilant during switching operations by not only protecting shove movements, but also protecting themselves by avoiding close or no clearance hazards.* The safety alert further advised, “... *Last, but not least, remember to always hold a job briefing whenever the job or situation changes...*”

Crew Information:

Locomotive Engineer:

The Locomotive Engineer began his railroad career in 2012. He had been working as a Locomotive Engineer for approximately seven (7) years. He was determined to be fit for duty and he was in compliance with the Federal Hours of Service requirements.

¹⁰ See Appendix D at the end of this report (page 20).

Conductor:

The Conductor was hired by the BNSF on May 27, 1996. A review of the Conductor's training records indicated that he completed his last rules training on February 26, 2020. The Conductor was operationally tested fourteen (14) times from November 23, 2020, through March 10, 2021, with zero (0) failures noted.

A review of the Conductor's work history from March 7, 2021, to April 7, 2021 indicated that he had worked a total of eleven (11) times in the thirty (30) days prior to the accident and had been on duty an average of 8'33" per day. He was determined to be fit for duty and he was in compliance with the Federal Hours of Service requirements.

Brakeman:

The Brakeman began his railroad career in 2006. He was determined to be fit for duty and he was in compliance with the Federal Hours of Service requirements.

Federal Hours of Service and Fatigue

Although there is no evidence that fatigue contributed to the accident there is no evidence to rule it out, as we have with cell phone records and toxicological testing. The evaluation of fatigue in railroad accidents must be a regular occurrence in accident investigations and there must be some guidance for investigators to rely upon in their investigations and recommendations.

In this accident all three crew members were in compliance with the Federal Hours of Service regulations. However, the hours of service regulations address off duty time. It does not regulate or provide guidance on sleep nor fatigue. The quantity and quality of sleep each crew member had prior to reporting for duty is unestablished. Nor is there any evidence of how much time they were awake immediately prior to reporting for duty that day.

Fatigue is an old, but still growing, safety concern among the operating employees in the industry. There is little debate that working while fatigued creates an unsafe condition. Attendance policies implemented by the Class I Railroads have exacerbated the fatigue problem. Under these policies an employee's decision to decline to perform safety sensitive work, because insufficient sleep has left them fatigued, is chilled by the employment consequences imposed for absences by such policies. The time is long overdue for the Federal Railroad Administration to establish regulations for Fatigue Management Plans.

The Rail Safety Improvement Act of 2008 mandated the develop of Risk Reduction Plans that in part required the Railroads to "... develop and update at least once every 2 years a fatigue management plan that is designed to reduce the fatigue experienced by safety-related railroad employees and to reduce the likelihood of accidents, incidents, injuries, and fatalities caused by fatigue."¹¹ Furthermore, Congress identified nine (9) specific issues for the railroads to evaluate. That task has languished unfinished for over a decade.

Post-Accident Toxicological Testing:

The toxicological specimens of the train crew of BNSF Local No. 8371 were sent for post-accident testing which determined all three (3) employees were negative for alcohol and drugs and was not a contributing factor to this accident.

Cell Phone Records:

The mobile phone records of the train crew of BNSF Local No. 8371 were obtained and reviewed. Mobile phone records indicate that there was no record of phone activities for the Locomotive Engineer, Conductor or Brakeman and was not a contributing factor to this accident.

Probable Cause

The Brotherhood of Locomotive Engineers and Trainmen concludes that the probable cause of the April 7, 2021, switching fatality at the Dyno Nobel facility was the noncompliant walkway provided by the facility for the employee to perform trackside duties. The employee's decision to

¹¹ An excerpt from the RSIA 2008 is attached as Appendix E

place himself in an area with insufficient space to perform his trackside duties is a contributing factor. It is undetermined why he made that decision.

Proposed Recommendations

To Burlington Northern Santa Fe Railway (“BNSF”):

1. Ensure all industries where BNSF switch crews perform service have acceptable walking conditions. Verify that locations where regular switching occurs there is proper clearance for train crews to perform their duties.
2. Enhance the safety culture to prevent accidents and incidents in the future, including enhancements and improvements to local safety processes to ensure employees can report any unsafe conditions to their supervisors.
3. Ensure, through regular inspections, that all customers are in compliance with all Federal, State and Local regulations regarding Industrial Railroad tracks.

To the Federal Railroad Administration (“FRA”):

1. Enhance and enforce regulations that specify proper walking conditions at facilities where regular switching occurs. Develop standards that must be met before switching can be performed.
2. Re-convene the Rail Safety Advisory Committee (“RSAC”) working group on Fatigue Management Plans working group and issue regulations in compliance with the RSIA 2008.

CERTIFICATE OF SERVICE

I certify that on March 31, 2022, I have electronically served upon Mr. Zachary Zagata (zachary.zagata@ntsb.gov), Investigator in Charge, National Transportation Safety Board, a complete and accurate copy of these proposed findings regarding the April 7, 2021 switching fatality that occurred near Louisiana, Missouri (NTSB Docket No. RRD21LR009). An electronic copy of same was also forwarded to the individuals listed below in this certificate of service, as required by 49 CFR § 845.27 (Proposed Findings)


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Respectfully submitted,


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Appendix A

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6.27 Movement at Restricted Speed

When required to move at restricted speed, movement must be made at a speed that allows stopping within half the range of vision short of:

- Train.
 - Engine.
 - Railroad car.
 - Men or equipment fouling the track.
 - Stop signal.
- or
- Derail or switch lined improperly.

When a train or engine is required to move at restricted speed, the crew must keep a lookout for broken rail and not exceed 20 MPH.

Comply with these requirements until the leading wheels reach a point where movement at restricted speed is no longer required.

6.28 Movement on Other than Main Track

Except when moving on a main track or on a track where a block system is in effect, trains or engines must move at a speed that allows them to stop within half the range of vision short of:

- Train.
 - Engine.
 - Railroad car.
 - Men or equipment fouling the track.
 - Stop signal.
- or
- Derail or switch lined improperly.

6.28.1 Sidings of Assigned Direction

Do not use sidings of an assigned direction in the opposite direction unless authorized by the train dispatcher.

6.28.2 Stopping Clear in Siding

When possible, a train entering a siding must not stop until the entire train is clear of the main track.

6.28.3 Cars or Equipment Left on Siding

Avoid leaving cars or equipment on sidings unless authorized by the train dispatcher, except in an emergency. In this case, notify the train dispatcher immediately.

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WESTWARD	Length of Siding (Feet)	Station Nos.	Mile Post	Siding Switch	Hannibal Subdivision MAIN LINE STATIONS	Rule 4.3	Type of Oper.	Line Seg.	Miles to Next Stn.	EASTWARD
	Adjoining Sub: Ottumwa, Chicago Division Subdivision Boundary: Hannibal, MP 220.4 / Ottumwa, MP 205.1 Information for Burlington is located in the Ottumwa sub timetable.									
		20167	220.4		BURLINGTON		BJR	CTC RL	3.7	
		26212	216.7		KEMPER				7.0	
		26205	209.7		WEVER				1.7	
	6.450	26203	208.0	208.9 207.6	SINCLAIR SWITCH				7.7	
		26198	200.3		FORT MADISON Connection with Chillicothe sub. Chicago Division via GCOR/MWOR 6.28, MP 200.2 Information for Fort Madison is located in the Chillicothe sub, Chicago Division timetable.		J		10.3	
	7.900	26185	190.0	190.9 189.2	MONTROSE		J	TWC	4.5	
		26180	185.5		GATEWAY				2.3	
		26178	183.2		SANDUSKY				3.2	
		26173	180.0		KEOKUK Adj. RR: KURY MP 178.0		BJ		14.0	
	8.056	26162	166.0	166.7 165.0	GREGORY				10.1	
		26152	155.9		CANTON				5.8	
		26146	150.1		LA GRANGE				2.1	
	8.517	26143	148.0	148.4 146.7	CASINO				4.0	
			144.0		CP 1439				2.9	
			137.0		XO WEST QUINCY Information for XO West Quincy is located in the Brookfield sub timetable				1.0	
	7.326	25101	136.0	136.6 135.0	WEST QUINCY Adj. Sub: Brookfield, MP 136.9		BJ TX		1.9	
		25104	134.1		MARK Adj. Sub: Brookfield, MP 134.1		J		2.1	
	7.673	26132	132.0	133.1 131.4	FALK				11.2	
			120.8		NS XING Adj. RR: NS, MP 120.3		MX(2)	14	2.8	
	9.300	26119	118.0	118.8 116.9	HANNIBAL				1.3	
			116.7		ILASCO				11.7	
	8.360	26104	105.0	105.9 104.2	ASHBURN				10.7	
		26094	94.3		LOUISIANA				0.7	
			93.6		GWWR XING Connection with KCS via GCOR/ MWOR 6.28 at MP 94.2		AJ		6.8	
		26086	86.8		DUNDEE			CTC	4.8	
	8.870		82.0	83.4 81.5	BURNS				13.0	
	9.606	26068	69.0	70.0 68.0	ELSBERRY				17.0	
	7.285	26052	52.0	53.3 51.7	OLD MONROE				8.0	
	10.311	26044	44.0	45.3 43.2	GIBB				16.0	
	10.423	26027	28.0	28.9 26.8	MACHENS				2.6	
			25.4		EAST UNION ELECTRIC				0.3	
		26025	25.1		WEST UNION ELECTRIC				3.1	
	10.620	26020	22.0	22.7 20.6	WEST ALTON				8.0	
	8.924	26015	14.0	14.9 13.1	SPANISH LAKE				4.1	
		26009	9.9		BADEN Adj. RR: TRRA (N Belt Ind. Lead), MP 9.8				1.7	
		26007	8.2		NORTH ST. LOUIS Connection with NS via GCOR/ MWOR 6.28 at MP 8.1		BJT		1.9	
			6.3		MP 6.3				2.1	
		26004	4.2		NORTH MARKET				212.1	
	Adjoining RR: TRRA (Merchants Sub) Subdivision Boundary: Hannibal, MP 4.2 Connection with Cuba & River Subs via TRRA & GCOR/MWOR 6.28									

Central Continental Time in effect on Hannibal Subdivision			
Radio Call-In			
Radio Channel 070 in service Burlington to West Quincy			
Kemper - 30(X)	Kemper - 720 Ottumwa Sub DS	Ft Madison - 31(X)	
Keokuk - 32(X)	Canton - 36(X)	La Grange - 35(X)	
Casino - 34(X)			
Radio Channel 047 in service West Quincy Yard			
Radio Channel 087 in service West Quincy to North Market			
Falk - 71(X)	Hannibal - 35(X)	Louisiana - 37(X)	
Elsberry - 38(X)	Old Monroe - 39(X)	N St. Louis - 32(X)	
Radio Channel 095 in service at Lindenwood Yard			
Radio Channel 070 in service at North St Louis Yard			
Radio Channel 026 in service on the TRRA			
Emergency - Call 911			
Dispatcher X=0, Mechanical Desk X=2, Customer Support X=3, RailRoad Police X=4, Detector Desk X=5, PTC Desk X=9			
Mobile Radio	Number	Access Digit	Disconnect Digit
Fort Madison (P4)	376-4230	*	#
Grafton (Purple)	768-6945	*1	#1
Dispatcher Information			
817-867-7043, Fax 817-352-6066 NS Dispatcher—404-877-9544			
1. Speed Regulations			
See Item 1 of the System Special Instructions for additional speed restrictions.			
1(A). Speed—Maximum			
			Frt
			Under 100 TOB
			100 TOB & Over
Main Track			
MP 220.4 to MP 136.9			40 40
MP 136.9 to MP 4.2			60 55
1(B). Speed—Permanent Restrictions			
			Frt
MP 220.4 to MP 219.9			25
MP 218.8 to MP 216.7			30
MP 202.7, HER, road crossing			10
MP 205.0 to MP 198.5			25
MP 195.1 to MP 194.6			25
MP 189.5 to MP 188.5			25
MP 180.2 to MP 180.1, HER			25
MP 178.5 to MP 172.0			25
MP 172.0 to MP 168.0			35
MP 163.4 to MP 161.7			30
MP 157.0 to MP 156.0			30
MP 151.0 to MP 149.0			35
MP 142.0 to MP 134.0			25
MP 134.0 to MP 131.4			55
MP 126.3 to MP 125.9			55
MP 121.2 to MP 119.0			25
MP 119.0 to MP 96.5			45
MP 96.5 to MP 93.4			30
MP 93.4 to MP 85.2			45
MP 85.2 to MP 84.3			40
MP 84.3 to MP 80.0			45
MP 80.0 to MP 79.4			30
MP 79.4 to MP 77.9			45
MP 20.6 to MP 18.3			25

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	Frt
MP 19.1 to MP 18.5, bridge, cars heavier than 131.5 tons, except solid unit coal and grain trains containing no commodity other than coal or grain, and intermodal trains containing intermodal equipment only	10
MP 18.3 to MP 8.2	45
MP 8.2 to MP 4.5	30
MP 4.5 to MP 4.3	10

Key Trains

Maximum speed within the following municipal area limits unless otherwise restricted:

MP 25.0 to MP 4.2	35
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1(C). Speed—Sidings and Main Track Switches and Turnouts

Trains and engines must not exceed 10 MPH through turnouts unless otherwise indicated. Trains and engines using sidings must not exceed the siding turnout speed unless otherwise indicated.

	Frt	
	Under 100 TOB	100 TOB & Over
MP 189.3, Montrose, siding turnouts	25	25
MP 166.6, Gregory, siding turnouts	25	25
MP 148.1, Casino, siding turnouts	25	25
MP 136.9, hand operated crossover between MT and Track 1 West Quincy Yard	20	20
MP 136.9, West Quincy, siding turnouts	25	25
MP 135.0, West West Quincy, WE yard turnout	20	20
MP 134.1, Mark, turnout	25	25
MP 131.5, Falk, siding turnouts	25	25
MP 104.3, Ashburn, siding turnouts	20	20
MP 82.2, Burns, siding turnouts	40	25
MP 68.2, Elsberry, siding turnouts	25	25
MP 51.6, Old Monroe, siding turnouts	20	20
MP 44.4, Gibb, siding turnouts	40	25
MP 26.9, Machens, siding turnouts	20	20

1(D). Speed—Other

Trains and engines must not exceed 10 MPH through turnouts unless otherwise indicated. Trains and engines must not exceed 10 MPH on other than main track (GCOR/MWOR 6.28) unless otherwise indicated.

South River, West 900 feet of Levee Track (7004)	5	5
Track 1, West Quincy Yard	20	20
Dundee, Storage Track	20	20
Machens, Union Electric Power tracks, loaded trains	5	5
Prospect Hill, Water Works Track	5	5
Lindenwood to Grand Avenue, tracks 31 and 32	20	20

2. Bridge and Equipment Weight Restrictions

Maximum Gross Weight of Car

Burlington to West Quincy 143 tons, Restriction D
 West Quincy to Mark 143 tons, Restriction C
 Mark to Lindenwood 143 tons, Restriction D

Location	Track Name	Track No.
Six-axle locomotives are not permitted on:		
South River		
Ilasco		
Louisiana Yard		
Cosgrove		
Dundee	All Industry Tracks	All
Old Monroe		5324
Prospect Hill	Water works tracks	
	Home Depot	All
North St. Louis	International Foods Lead	248 - 250
Chouteau Yard	JD Street	1271 - 2172
	Watco	1260 - 1263

No more than one four-axle locomotive is permitted on:

Winfield	Pipe Track	
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Locomotives are not permitted on:

Kemper	ISU unloading station	
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Unit trains other than MOW cars are not permitted on:

Ft Madison Yard		
Keokuk Yard		

Between Burlington and MP 175 unless authorized by the roadmaster, all tracks governed by GCOR/MWOR 6.28 and those listed below are out of service for unit coal, grain and ore trains (bad order cars may be set out):

Kemper	ISU Power Plant	113-01 through 138-01
Gateway		2020

3. Type of Operation

Main Track

MP 220.4 to MP 220.3	CTC
MP 220.3 to MP 218.8	RL
MP 218.8 to MP 143.9	TWC
MP 143.9 to MP 4.2	CTC

Interlockings

Mile Post	Type	Notes
120.8	Manual	Controlling RR: NS #
93.6	Automatic	KCS*
Grand Avenue	Manual	Controlling RR: TRRA
Iron Mountain Jct	Manual	Controlling RR: TRRA, Track 1232

* Equipped with MW Release Box

Additional information located in Item 7

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4. Subdivision Specific Rules Information

Safety Overlay Systems in Effect

- Positive Train Control (PTC)—CP 1439 to MP 4.2
- Hy-Rail Limits Compliance System (HLCS)

Energy Management Systems in Effect

- Trip Optimizer (TO)
 - TO/PTC Interface Mode (TO/PTC-IM)

GCOR 2.12, Fixed Signal Information—Supplemental instructions: On the Hannibal Subdivision, when a train is passing the approach signal (displaying other than Clear) to a control point, a crew member must transmit the following by radio:

- Train identification (initials, engine number and direction)
- Signal Name
- Control point location
- Track (on single track, main track designation is not necessary)
- Speed

Example of Transmission:

"BNSF 6301 East approach signal in advance of WSS Falk at 25 MPH, out."

GCOR 5.8.4, Whistle Quiet Zone—Whistle signal 5.8.2(7) is not required at the following locations. All other whistle requirements remain in effect.

Location	Mile Post	Crossing Name
St. Louis, Mo	4.40	Branch Street
	4.68	Angelrodt Street
	5.95	E. Grand Ave
	3.90X	Old Kings Highway
	4.40X	Mackland Ave
	4.70X	Sublette Ave
	5.00X	Sulphur Ave
	5.25X	Knox Ave

GCOR/MWOR 6.19—When required flagging distance Burlington to West Quincy is 1.5 miles and West Quincy to North St. Louis is 2.0 miles.

GCOR 18.1—BJRY trains operating between MP 135 and MP 137.6 are exempt from the requirement to be equipped with an operable PTC system.

5. Trackside Warning Devices (TWD)

See System Special Instructions for additional Trackside Warning Device (TWD) information

Mile Post	Device	Recall Code	Notes
Type A. Locations Protecting Bridges, Tunnels or Other Structures			
135.0	DED	247	EWD
22.7	DED	247	WWD
14.9 *	DED	327	EWD
Type B. Locations			
191.6		318	
159.6		367	
135.0	DED	247	WWD
128.6		368	
101.9		378	
72.8		388	
55.3		348	
42.2		398	
22.7	DED	247	EWD
18.0		328	
14.9	DED	327	WWD

* While passing over the detector, a pre-alarm message indicating "You have a defect" will be transmitted if a defect is detected. When this pre-alarm message is transmitted, immediately stop the train consistent with good train handling.

If train is stopped on top of the detector, a post train alarm message will be transmitted summarizing defect(s) detected followed by "out". Upon moving the train, defect detection will continue for the remainder of the consist. Additional defects may be identified and transmitted with invalid axle designation. Inspect remainder of the train from the last reported defect.

6. FRA Excepted Track—None

7. Special Conditions

Burlington and West Quincy—Double stacks and auto racks are prohibited from operating on Hannibal Subdivision between Burlington and West Quincy.

Keokuk Moorar Line—Due to grade, cars are permitted to be parked only on industry tracks or the lower runaround track (track 1860) when protected by a derail.

Gregory—When meeting at Gregory, if the eastward train has not arrived, the westward train must hold back of the crossing at MP 166.55 until the eastward arrives in the siding. Eastward trains that will stop at Gregory must hold back 250 feet west of the West Crossing until the Westward train they are meeting has cleared the East Switch at Gregory and until they have a track warrant.

West Quincy—Except when track and time is in effect, when necessary to hand operate either switch at the west end of West Quincy both switches must be operated by hand as outlined in GCOR 9.13.1.

Hannibal—The manual interlocking at Hannibal is controlled by the NS Springfield Dispatcher (channel 039, tone 353).

Machens—Trains on the siding must stop and protect the crossing at MP 28.1 unless the crossing flashers are operational.

Spanish Lake—All westbound trains must notify the Lindenwood Yardmaster on channel 095 upon leaving Spanish Lake for further instructions.

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Baden—Trains must contact K-Line Dispatcher before entering Baden Main from the Bay Track (221) to confirm there are no conflicting movements.

All trains entering Baden for TRRA North Belt must verify their train does not contain any cars exceeding 19 feet in height. Cars exceeding 19 feet in height will not clear Antelope St. bridge.

North St. Louis—All trains must stop at stop signs on Yard Track 5 just clear of ACT Storage Tracks. If ACT is unloading, crews must ascertain that it is safe to pass before fouling the south end of the ACT Storage Tracks by contacting the ACT or the Lindenwood Yardmaster. Watch for close clearance on track 214 on the south side of the ACT dump shed.

All trains must contact the Lindenwood Yardmaster on channel 095 before entering North St. Louis Yard for yarding instructions, and to verify if another train is working inside yard.

St. Louis—The St. Louis Lindenwood Yardmaster will monitor channel 095. Trains arriving and departing Lindenwood should remain on channel 095 within the St. Louis Terminal complex, and when necessary to communicate with the Dispatcher, use the road channel.

All West Quincy, Chaffee, Springfield and Lindenwood road crews going on duty at Lindenwood must contact the Lindenwood Yardmaster and report the time they were dropped off at their power or at their outbound train. Outbound crews not having a ride will tell the Yardmaster immediately.

All BNSF employees operating on foreign railroads in St. Louis (TRRA, NS, ALS, UP) are governed by, and must have a copy in their possession of, the current Greater St. Louis Operating Rule Book (Red Book).

Lindenwood Hub—Track switches and derail secured by private locks in charge of Hub personnel who must unlock and authorize movement before using. All engines must have bell ringing and headlight on dim when moving within limits of concrete pad.

Remote Control Zones

St. Louis

- RCZ 1 is established between the east clearance point of 11 pocket switch in track 941, extending west onto track 199, to the signal at MP 7.9 (Cuba Sub). Approximate length of RCZ 1 is 4301 feet. RCZ signs are located at the entrance of the zone.
- RCZ 2 is established between the 932E (east Gratiot) switch on track 932 extending west to the east clearance point of 11 pocket switch in track 941. Approximate length of RCZ 2 is 836 feet. RCZ signs are located at the entrance of the zone.
- RCZ 3 is established between the west clearance point at the east end of track 925, extending west onto track 1431, ending at the east clearance point of track 912 switch. Approximate length of RCZ 3 is 3621 feet. RCZ signs are located at the entrance of the zone.
- RCZ 4 is established between the west clearance point at the east end of track 951, extending west, to the west clearance point of the east 951b crossover switch. Approximate length of RCZ 4 is 3693 feet. RCZ signs are located at the entrance of the zone.
- Activation/Deactivation Procedure - RCZ 1, 2, 3, and 4: Crews will contact the yardmaster for permission to activate the RCZ and will notify the yardmaster when the RCZ is deactivated. All movements approaching/departing Lindenwood yard must ascertain from the yardmaster if there are any RCZ's activated on their intended route into and out of the yard.

No Clearance Locations

Location	Track Name	Track No.	Obstruction
Kemper	ISU	133-138	Dump shed
Ft Madison	Scott's	2320-2321	Gate, loading station
	Merchmans	2330-2331	Gate
	Siemens	2344-2348	Riding prohibited on property
Gateway	Orba-Johnson Trans Shipment Co	2098-2099	Dump shed
Keokuk	Henniges	1843-1846	Gate, building, loading station
	ADM	1860 1864	Loading station
	Griffin Wheel	1871-1874	Gate, loading dock
Canton	Stub Track	1425	Building
South River	MFA	7001-7006	Buildings; Do not ride cars to spot
Louisiana	MFA	6350	Building
Cosgrove	Dyno/ Ashland	6201-6209	Buildings, heaters, pipes
		6211-6213	Buildings, heaters, pipes
Annada	MFA	5816	Elevator
Elsberry	MFA	5618	Building/elevator
Prospect Hill	Home Depot	515	Warehouse, fence
		Lead	Warehouse, fence
		517-518	Warehouse, fence
North STL	Lange Stegman	209	When cars are stored west of Merchants Bridge Overpass employee will not clear if riding on 5 Main
		212	Loading shed
	ACT	214	Dump shed
	ADM	231	Pit, building
	International Foods	248-250	Dock, warehouse, fence
Choteau Yard	WATCO Transload	1260	Supplies
		1261-1262	Warehouse
		1263	Supplies, vehicles
	JD Street	1271-1272	Building, vehicles
Cheltenham	Elementis Specialties	1326	Building
Lindenwood	Scullins	926	Fence
	Chemisphere	1392	Building

Close Track Centers

Location	Track Name	Track Nos.
Keokuk	Yard	Main Track - 1809
	Yard	Main Track - KJRY Yard
Ilasco	Green America	6711-6713
North STL	ACT	214-217
St. Louis	Lindenwood Yd	902-903, 904-906
	Under Arsenal Bridge	910-912, 913-914, 915-916, 917-919, 920-921
Lindenwood	Yard	910-911 (from Southwest Ave to WE yard)

Employees working in the close clearance areas at St Louis must call for protection from the Lindenwood Yardmaster to ensure there will be no conflicting movements on adjacent tracks.

Employees required to work or ride with hi-wides or other dimensional cars between the tracks under the Arsenal bridge must cross over their cars, with proper protection, to avoid these close clearances. Hiwide movements must proceed on hand signals through the curves at Southwest Avenue and Arsenal Street Bridge and the west 400 feet of tracks 910 and 911 when cars are present on the adjacent track.

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Duplicate Mile Posts—Between the following locations an “X” has been added to the mile posts because duplicate mile posts exist elsewhere on the subdivision:

Between Lindenwood and Grand Avenue—MP 7.1X to MP 2.1X

Missing Mile Posts

MP 141.7 = MP 137.6

Test Miles

MP 212 to MP 211

MP 152 to MP 151

MP 129 to MP 128

MP 36 to MP 35

SSI—Switch Control/Monitoring Systems

- POS in effect

Flash Flood Critical Areas

MP 218.8 to MP 215.0

MP 211.0 to MP 210.0

MP 207.0 to MP 201.5

MP 196.0 to MP 195.0

MP 175.0 to MP 168.0

MP 152.0 to MP 148.0

MP 135.0 to MP 126.0

MP 75.0 to MP 22.0

MP 18.0 to MP 10.0

8. Line Segments

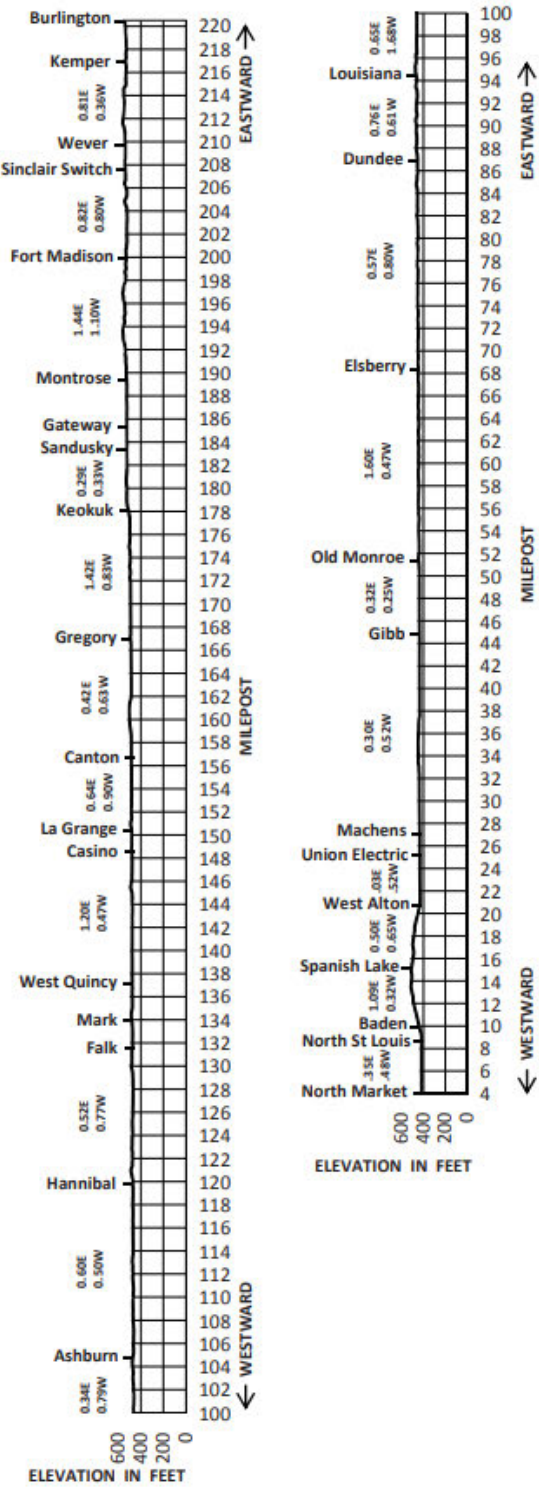
Segment No.	Limits	Mile Posts
Road Line Segments		
14	Burlington to North Market	
1002	Grand Ave. to Lindenwood	
Yard Line Segments		
850	Ft. Madison	
851	Keokuk	
852	West Quincy	
853	Hannibal	
863	West Alton	

9. Other Location Information

Station No.	Name	Mile Post	Capacity in Feet	Switch Opens
26205	Wever	209.9	225	East
26178	Sandusky	183.3	3,333	Both
26157	Fenway	161.4	110	West
26130	South River	129.8	5,100	West
26116	Ilasco	116.7	2,400	East
26092	Cosgrove	92.9	800	East
26086	Dundee	86.4	5964	Both
26075	Annada	75.4	415	East
26056	Winfield	56.1	612	East
26037	Seeburger	36.9	600	East
26033	Orchard Farm	33.5	900	West
26010	Prospect Hill	10.4	4,200	Both
92015	Grand Avenue	6.3 miles W of end of MT		
	Chouteau Yard	6.4 miles W of end of MT		Both
	Cheltenham	8.5 miles W of end of MT	520	East
92007	Lindenwood	11.3 miles W of end of MT		

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10. Grade Charts



Appendix C



rule.

AUTHORITY: section 622.027, RSMo 2016. This rule originally filed as 4 CSR 265-8.080. Emergency rule filed June 14, 1985, effective July 1, 1985, expired Oct. 28, 1985. Original rule filed Aug. 1, 1985, effective Oct. 29, 1985. Rescinded and readopted: Filed April 16, 1986, effective June 30, 1986. Amended: Filed Jan. 5, 1989, effective April 27, 1989. Amended: Filed May 2, 1991, effective Dec. 9, 1991. Amended: Filed June 22, 1998, effective Feb. 28, 1999. Moved and amended: Filed March 9, 2018, effective Oct. 30, 2018.*

**Original authority: 622.027, RSMo 1985, amended 1993, 1995.*

7 CSR 265-8.092 Railroad Reports

PURPOSE: This rule requires the notification by railroads operating within the state to file with the division certain traffic statistics for use as planning information in railroad safety studies.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) All railroads operating within the state shall file with the division, within the time prescribed, each of the following documents:

(A) Two (2) copies of their operating timetable not later than ten (10) days after the effective date of each issue; and

(B) Annually, on or before April 30 of each year, one (1) Average Daily Railroad Traffic Within Missouri report for each line segment operated in the state, to be submitted on the form published February 29, 2016 by the Missouri Department of Transportation, 105 W. Capitol Ave., Jefferson City, MO 65101, which is incorporated by reference and made a part of this rule. This rule does not incorporate any subsequent amendments or additions of this form.

(2) All Class I railroads operating in Missouri shall annually complete the forms listed in subsections (A)–(E) of section (2) of this rule

and file the completed forms with the division on or before April 30th of each year. The forms are incorporated by reference and made a part of this rule as such forms were published on February 29, 2016 by the Missouri Department of Transportation, 105 W. Capitol Ave., Jefferson City, MO 65101. This rule does not incorporate any subsequent amendments or additions of these forms:

(A) SC 210—Railway Operating Revenues Earned Within the State;

(B) SC 702—Mileage Operated at Close of Year—Within the State;

(C) Summary Statement of Track Mileage Within The State and of Titles Thereto at Close of Year;

(D) SC 931—Statistics of Rail-Line Operations—Within the State; and

(E) SC 941—Revenue Freight Carried During the Year—Within the State.

(3) All other railroads operating in Missouri are required to complete and annually file with the division on or before April 30th only the forms listed in subsections (A)–(C) of section (2) of this rule.

AUTHORITY: section 622.027, RSMo 2016. This rule originally filed as 4 CSR 265-8.092. Original rule filed May 2, 1991, effective Dec. 9, 1991. Moved and amended: Filed March 9, 2018, effective Oct. 30, 2018.*

**Original authority: 622.027, RSMo 1985, amended 1993, 1995.*

7 CSR 265-8.100 Track and Railroad Workplace Safety Standards

PURPOSE: This rule prescribes the minimum safety standards for track and roadbed inspections, and prescribes railroad worker safety standards, for all railroad common carriers operating within Missouri.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) The division incorporates by reference in this rule the minimum safety standards for track and roadbed inspections for common

carriers by rail, as adopted by the Federal Railroad Administration and published in Title 49, *Code of Federal Regulations*, Part 213, except that the division does not incorporate by reference any of the provisions of 49 CFR section 213.15—Civil penalty, or Appendix B to part 213—Schedule of Civil Penalties, or any other provision conflicting with applicable Missouri law. The aforementioned standards in Title 49, *Code of Federal Regulations*, Part 213, are incorporated by reference and made a part of this rule as published October 1, 2016 by the Federal Railroad Administration, United States Department of Transportation, 1200 New Jersey Avenue SE, Washington, DC 20590. This rule does not incorporate any subsequent amendments or additions of this rule.

(2) The division incorporates by reference in this rule the requirements governing the safety of railroad employees in the workplace as adopted by the Federal Railroad Administration and published in Title 49, *Code of Federal Regulations*, Part 214, except that the division does not incorporate by reference any of the provisions of Appendix A to part 214—Schedule of Civil Penalties, or any other provision conflicting with applicable Missouri law. The aforementioned standards in Title 49, *Code of Federal Regulations*, Part 214, are incorporated by reference and made a part of this rule as published October 1, 2016 by the Federal Railroad Administration, United States Department of Transportation, 1200 New Jersey Avenue SE, Washington, DC 20590. This rule does not incorporate any subsequent amendments or additions of this rule.

AUTHORITY: section 622.027, RSMo 2016. This rule originally filed as 4 CSR 265-8.100. Emergency rule filed June 14, 1985, effective July 1, 1985, expired Oct. 28, 1985. Original rule filed Aug. 1, 1985, effective Oct. 29, 1985. Amended: Filed June 22, 1998, effective Feb. 28, 1999. Moved and amended: Filed March 9, 2018, effective Oct. 30, 2018.*

**Original authority: 622.027, RSMo 1985, amended 1993, 1995.*

7 CSR 265-8.110 Walkway Safety Standards at Industrial Tracks

PURPOSE: This rule prescribes the minimum safety standards for the construction, reconstruction, and maintenance of walkways adjacent to railroad industrial trackage within Missouri.



(1) For purposes of this rule, industrial railroad trackage means that trackage owned, leased, or used by any person, firm, or corporation, other than a railroad as defined by section 386.020, RSMo, which connects with the tracks of a railroad and on which a railroad switches or operates cars or locomotives within Missouri.

(2) Except in cases in which the division finds that construction or reconstruction is impracticable, unnecessary, or where existing structures or tracks prevent construction, walkways shall be constructed along each side of industrial railroad trackage a minimum of eight feet, six inches (8'6") from the center of track measured at right angles to the center. Walkways shall be reasonably level with the top of the railroad ties and beginning at the end of the railroad ties, not exceed a drop of two inches (2") per foot to provide drainage and a surface reasonably level on which to walk as well as permit the safe performance of trackside duties, taking into consideration existing structures and tracks.

(3) Walkways along industrial railroad trackage shall be constructed of and maintained with materials that conform to the specifications of the railroad corporation which switches or operates cars or locomotives on and over the trackage; if no specifications are available, walkways shall be constructed of suitable chat or fines not to exceed one inch (1") in diameter.

(4) Walkways along industrial railroad trackage as well as the area between the rails shall be kept free of vegetation or debris that would interfere with the performance by railroad employees of normal trackside duties.

(5) Each drainage or other water-carrying facility, under or immediately adjacent to the roadbed, must be maintained and kept free of obstruction in order to accommodate expected water flow for the concerned area.

AUTHORITY: section 622.027, RSMo 2016. This rule originally filed as 4 CSR 265-8.110. Emergency rule filed June 14, 1985, effective July 1, 1985, expired Oct. 28, 1985. Original rule filed Aug. 1, 1985, effective Oct. 29, 1985. Moved and amended: Filed March 9, 2018, effective Oct. 30, 2018.*

**Original authority: 622.027, RSMo 1985, amended 1993, 1995.*

7 CSR 265-8.130 Grade Crossing Construction and Maintenance

PURPOSE: This rule implements the provisions of section 389.610, RSMo, which authorizes the division to make reasonable rules pertaining to the construction and maintenance of all public grade crossings.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) Every crossing shall be constructed of materials that will provide a ride quality compatible with that of adjacent roadway surfaces (except that crossings of unconsolidated or asphalt material shall have installed headers of equal height to the top of rails installed on both sides of both rails).

(A) The crossing on paved roads shall be the same width as the approaching roadway including drivable shoulders plus two feet (2') on each side. On gravel roads, the crossing shall be the same width as the traveled way, which is the width of the crossing as it existed on April 27, 1989 but not less than sixteen feet (16').

(B) If practicable, the roadway alignment should intersect the railroad track at or nearly at right angles. The roadway surface shall be in the same plane as the top of rails for a distance of two feet (2') outside of rails for either multiple or single track crossings. The top of the rail plane shall be connected with the grade line of the roadway each way by vertical curves of the length required to provide riding conditions and sight distances normally applied to the roadway. It is desirable that the roadway surface be not more than three inches (3") higher nor six inches (6") lower than the top of the nearest rail at a point thirty feet (30') from the rail, measured at a right angle, unless track superelevation dictates otherwise. Where crossings involve two (2) or more tracks, the top of rails for all tracks shall be brought to the same plane where practicable.

(C) Width of roadway at a highway-railway grade crossing should correspond to that of the adjoining highway and have the same number and width of traffic lanes as the adjoining highway without extra lanes and

with center turn lanes at the crossing delineated. At all paved approaches to the highway-railway grade crossing, the highway traffic lanes in the vicinity of the crossing should be distinctly marked in accordance with the recommendations of the *Manual on Uniform Traffic Control Devices for Streets and Highways* (2009 edition), which is incorporated by reference and made a part of this rule as published by the Federal Highway Administration, United States Department of Transportation, 400 7th Street SW, Room 3408, Washington, DC 20590, website: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/pdf_index.htm. This rule does not incorporate any subsequent amendments or additions of this manual. These markings are the responsibility of the public authorities.

(D) Part 8 of the American Railway Engineering and Maintenance of Way Association's *Guidelines for the Design, Construction or Reconstruction of Highway-Railway At-Grade Crossings* (2013 edition), is incorporated by reference and made a part of this rule as published by the American Railway Engineering and Maintenance of Way Association, 4501 Forbes Blvd. Suite 130, Lanham-Seabrook, MD 20706. This rule does not incorporate any subsequent amendments or additions of these guidelines. These guidelines are recommended practices for the construction and reconstruction of highway-railway grade crossings, if practicable.

(2) Unless otherwise ordered by the division or by agreement, the railroad corporation shall maintain the road surface over the length of ties and between tracks where adjacent track centers are less than fifteen feet (15').

(A) Unless otherwise ordered by the division, when a railroad corporation makes a track raise within a grade crossing, the runoff along the roadway shall be maintained at not more than two inches (2") in the first ten feet (10') outside the end of ties, not more than six inches (6") in the next ten feet (10') and the remaining run-off shall be brought to the same elevation of the existing grade within an additional ten feet (10') along the roadway.

(B) When a highway authority raises the road surface along an approach to a crossing, the run-off along the roadway shall be not more than two inches (2") in the first ten feet (10') outside the end of ties with the remainder in the next ten feet (10').

(C) Unless otherwise ordered by the division or by agreement, the railroad shall maintain a crosswalk of equal width as the approaching sidewalk over the length of ties and between tracks where adjacent track centers are less than fifteen feet (15') apart. The

Appendix D



Share Knowledge ~ Save a Life
ZERO FATALITIES



SOFA ALERT

PLEASE POST IMMEDIATELY



March 3, 2021: La Miranda, CA – An employee protecting a shove movement while setting out a cut of cars was pinned and sustained fatal injuries after striking equipment that was in the foul.

April 8, 2021: Louisiana, MO– An employee was found fatally injured while controlling a shove movement into an industry track.

May 19, 2021: Newington, NH – An employee switching an industry was fatally injured when caught in between equipment while trying to make a coupling in a curve.

Take Away

While these recent cases have not yet been analyzed, the SOFA Working Group is concerned by the three fatalities that already have occurred during 2021 and reminds all employees to remain vigilant during switching operations by not only protecting shove movements, but also protecting themselves by avoiding close or no clearances hazards. Last, but not least, remember to always hold a job briefing whenever the job or situation changes.

Most Common Findings in Switching Operations Fatalities

Close / No Clearance	Inexperienced Employee	Industry Hazard	Inadequate Job Briefing	Struck by Mainline Train
25%	22%	21%	20%	17%

As a cross-industry collaboration for over 20 years, the SOFA Working Group has identified the Possible Contributing Factors for more than 210 switching operations fatalities since 1992. The SOFA Working Group reports its finding and emerging data trends with the goal of zero fatalities in the railroad industry.

Appendix E

PUBLIC LAW 110-432—OCT. 16, 2008

122 STAT. 4853

on Commerce, Science, and Transportation and the House of Representatives Committee on Transportation and Infrastructure at the same time as the President's budget submission.

(d) ACHIEVEMENT OF GOALS.—

(1) PROGRESS ASSESSMENT.—No less frequently than annually, the Secretary shall assess the progress of the Department toward achieving the strategic goals described in subsection (a). The Secretary shall identify any deficiencies in achieving the goals within the strategy and develop and institute measures to remediate such deficiencies. The Secretary and the Administrator shall convey their assessment to the employees of the Federal Railroad Administration and shall identify any deficiencies that should be remediated before the next progress assessment.

Deadline.

(2) REPORT TO CONGRESS.—Beginning in 2009, not later than November 1 of each year, the Secretary shall transmit a report to the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Transportation and Infrastructure on the performance of the Federal Railroad Administration containing the progress assessment required by paragraph (1) toward achieving the goals of the railroad safety strategy and annual plans under subsection (a).

SEC. 103. RAILROAD SAFETY RISK REDUCTION PROGRAM.

(a) IN GENERAL.—Subchapter II of chapter 201 is amended by adding at end thereof the following:

“§ 20156. Railroad safety risk reduction program

“(a) IN GENERAL.—

“(1) PROGRAM REQUIREMENT.—Not later than 4 years after the date of enactment of the Rail Safety Improvement Act of 2008, the Secretary of Transportation, by regulation, shall require each railroad carrier that is a Class I railroad, a railroad carrier that has inadequate safety performance (as determined by the Secretary), or a railroad carrier that provides intercity rail passenger or commuter rail passenger transportation—

Deadline.
Regulations.

“(A) to develop a railroad safety risk reduction program under subsection (d) that systematically evaluates railroad safety risks on its system and manages those risks in order to reduce the numbers and rates of railroad accidents, incidents, injuries, and fatalities;

“(B) to submit its program, including any required plans, to the Secretary for review and approval; and

“(C) to implement the program and plans approved by the Secretary.

“(2) RELIANCE ON PILOT PROGRAM.—The Secretary may conduct behavior-based safety and other research, including pilot programs, before promulgating regulations under this subsection and thereafter. The Secretary shall use any information and experience gathered through such research and pilot programs under this subsection in developing regulations under this section.

“(3) REVIEW AND APPROVAL.—The Secretary shall review and approve or disapprove railroad safety risk reduction program plans within a reasonable period of time. If the proposed plan is not approved, the Secretary shall notify the affected

Notification.

Deadline.

railroad carrier as to the specific areas in which the proposed plan is deficient, and the railroad carrier shall correct all deficiencies within a reasonable period of time following receipt of written notice from the Secretary. The Secretary shall annually conduct a review to ensure that the railroad carriers are complying with their plans.

“(4) VOLUNTARY COMPLIANCE.—A railroad carrier that is not required to submit a railroad safety risk reduction program under this section may voluntarily submit a program that meets the requirements of this section to the Secretary. The Secretary shall approve or disapprove any program submitted under this paragraph.

“(b) CERTIFICATION.—The chief official responsible for safety of each railroad carrier required to submit a railroad safety risk reduction program under subsection (a) shall certify that the contents of the program are accurate and that the railroad carrier will implement the contents of the program as approved by the Secretary.

“(c) RISK ANALYSIS.—In developing its railroad safety risk reduction program each railroad carrier required to submit such a program pursuant to subsection (a) shall identify and analyze the aspects of its railroad, including operating rules and practices, infrastructure, equipment, employee levels and schedules, safety culture, management structure, employee training, and other matters, including those not covered by railroad safety regulations or other Federal regulations, that impact railroad safety.

“(d) PROGRAM ELEMENTS.—

“(1) IN GENERAL.—Each railroad carrier required to submit a railroad safety risk reduction program under subsection (a) shall develop a comprehensive safety risk reduction program to improve safety by reducing the number and rates of accidents, incidents, injuries, and fatalities that is based on the risk analysis required by subsection (c) through—

“(A) the mitigation of aspects that increase risks to railroad safety; and

“(B) the enhancement of aspects that decrease risks to railroad safety.

“(2) REQUIRED COMPONENTS.—Each railroad carrier’s safety risk reduction program shall include a risk mitigation plan in accordance with this section, a technology implementation plan that meets the requirements of subsection (e), and a fatigue management plan that meets the requirements of subsection (f).

“(e) TECHNOLOGY IMPLEMENTATION PLAN.—

“(1) IN GENERAL.—As part of its railroad safety risk reduction program, a railroad carrier required to submit a railroad safety risk reduction program under subsection (a) shall develop, and periodically update as necessary, a 10-year technology implementation plan that describes the railroad carrier’s plan for development, adoption, implementation, maintenance, and use of current, new, or novel technologies on its system over a 10-year period to reduce safety risks identified under the railroad safety risk reduction program. Any updates to the plan are subject to review and approval by the Secretary.

“(2) TECHNOLOGY ANALYSIS.—A railroad carrier’s technology implementation plan shall include an analysis of the safety impact, feasibility, and cost and benefits of implementing

technologies, including processor-based technologies, positive train control systems (as defined in section 20157(i)), electronically controlled pneumatic brakes, rail integrity inspection systems, rail integrity warning systems, switch position monitors and indicators, trespasser prevention technology, highway-rail grade crossing technology, and other new or novel railroad safety technology, as appropriate, that may mitigate risks to railroad safety identified in the risk analysis required by subsection (c).

“(3) IMPLEMENTATION SCHEDULE.—A railroad carrier’s technology implementation plan shall contain a prioritized implementation schedule for the development, adoption, implementation, and use of current, new, or novel technologies on its system to reduce safety risks identified under the railroad safety risk reduction program.

“(4) POSITIVE TRAIN CONTROL.—Except as required by section 20157 (relating to the requirements for implementation of positive train control systems), the Secretary shall ensure that—

“(A) each railroad carrier’s technology implementation plan required under paragraph (1) that includes a schedule for implementation of a positive train control system complies with that schedule; and

“(B) each railroad carrier required to submit such a plan implements a positive train control system pursuant to such plan by December 31, 2018.

Deadline.

“(f) FATIGUE MANAGEMENT PLAN.—

“(1) IN GENERAL.—As part of its railroad safety risk reduction program, a railroad carrier required to submit a railroad safety risk reduction program under subsection (a) shall develop and update at least once every 2 years a fatigue management plan that is designed to reduce the fatigue experienced by safety-related railroad employees and to reduce the likelihood of accidents, incidents, injuries, and fatalities caused by fatigue. Any such update shall be subject to review and approval by the Secretary.

Deadline.

“(2) TARGETED FATIGUE COUNTERMEASURES.—A railroad carrier’s fatigue management plan shall take into account the varying circumstances of operations by the railroad on different parts of its system, and shall prescribe appropriate fatigue countermeasures to address those varying circumstances.

“(3) ADDITIONAL ELEMENTS.—A railroad shall consider the need to include in its fatigue management plan elements addressing each of the following items, as applicable:

“(A) Employee education and training on the physiological and human factors that affect fatigue, as well as strategies to reduce or mitigate the effects of fatigue, based on the most current scientific and medical research and literature.

“(B) Opportunities for identification, diagnosis, and treatment of any medical condition that may affect alertness or fatigue, including sleep disorders.

“(C) Effects on employee fatigue of an employee’s short-term or sustained response to emergency situations, such as derailments and natural disasters, or engagement in other intensive working conditions.

“(D) Scheduling practices for employees, including innovative scheduling practices, on-duty call practices, work and rest cycles, increased consecutive days off for employees, changes in shift patterns, appropriate scheduling practices for varying types of work, and other aspects of employee scheduling that would reduce employee fatigue and cumulative sleep loss.

“(E) Methods to minimize accidents and incidents that occur as a result of working at times when scientific and medical research have shown increased fatigue disrupts employees’ circadian rhythm.

“(F) Alertness strategies, such as policies on napping, to address acute drowsiness and fatigue while an employee is on duty.

“(G) Opportunities to obtain restful sleep at lodging facilities, including employee sleeping quarters provided by the railroad carrier.

“(H) The increase of the number of consecutive hours of off-duty rest, during which an employee receives no communication from the employing railroad carrier or its managers, supervisors, officers, or agents.

“(I) Avoidance of abrupt changes in rest cycles for employees.

“(J) Additional elements that the Secretary considers appropriate.

“(g) CONSENSUS.—

Consultation.

“(1) IN GENERAL.—Each railroad carrier required to submit a railroad safety risk reduction program under subsection (a) shall consult with, employ good faith and use its best efforts to reach agreement with, all of its directly affected employees, including any non-profit employee labor organization representing a class or craft of directly affected employees of the railroad carrier, on the contents of the safety risk reduction program.

“(2) STATEMENT.—If the railroad carrier and its directly affected employees, including any nonprofit employee labor organization representing a class or craft of directly affected employees of the railroad carrier, cannot reach consensus on the proposed contents of the plan, then directly affected employees and such organization may file a statement with the Secretary explaining their views on the plan on which consensus was not reached. The Secretary shall consider such views during review and approval of the program.

“(h) ENFORCEMENT.—The Secretary shall have the authority to assess civil penalties pursuant to chapter 213 for a violation of this section, including the failure to submit, certify, or comply with a safety risk reduction program, risk mitigation plan, technology implementation plan, or fatigue management plan.”.

(b) CONFORMING AMENDMENT.—The chapter analysis for chapter 201 is amended by inserting after the item relating to section 20155 the following:

“20156. Railroad safety risk reduction program.”.

SEC. 104. IMPLEMENTATION OF POSITIVE TRAIN CONTROL.

(a) IN GENERAL.—Subchapter II of chapter 201, as amended by section 103 of this division, is further amended by adding at the end thereof the following: