

Federal Railroad Administration Office of Safety Headquarters Assigned Accident Investigation Report HQ-2009-30

BNSF Railway Company (BNSF) Sleeper, MO June 29, 2009

Note that 49 U.S.C. §20903 provides that no part of an accident or incident report made by the Secretary of Transportation/Federal Railroad Administration under 49 U.S.C. §20902 may be used in a civil action for damages resulting from a matter mentioned in the report.

DEPARTMENT (FEDERAL RAILR	OF TRA ROAD A	NSPORT DMINIST	ATIO RATIO	ON ON	FRA FA	ACTU	AL RA	IL F	ROAD A	CCI	DENT	REPO	ORT		F	FRA Fi	le #	<u>HQ-200</u>	<u>9-30</u>	
1.Name of Railroad C BNSE Rwy Co. [BN	1a	1a. Alphabetic Code					Ib. Railroad Accident/Incident No.													
2.Name of Railroad O	2a	2a. Alphabetic Code					2b. Railroad Accident/Incident No.													
BNSF Rwy Co. [BN		BNSF					SF0609114													
3.Name of Railroad C N/A	3a	Sa. Alphabetic Code 31					b. Ra	. Railroad Accident/Incident No.												
4.Name of Railroad R BNSF Rwy Co. [BN	4a	4a. Alphabetic Code 41 BNSF					b. Rai	 Railroad Accident/Incident No. SF0609114 												
5. U.S. DOT_AAR G	6. M	Date of Acc onth 06	cident/	Incident ay 29	Year 2	2009	7. Tin	ne of Ac 08:20	cident/l 0:	Incide	ent AM	PM								
8. Type of Accident/In	ndicent	1. Deraili	nent		4. Side c	ollision		7	. Hwy-rail c	crossir	ig 1	0. Explo	osion-det	tonati	on 13.	Other	<u> </u>		Code	;
(single entry in code box) 2. Head on collision 5. Raking collision									8. RR grade crossing 11. Fire/violent rup					upture	ture (describe in narrative)					
0 Core Corruing		3. Rear er	nd colli	sion	6. Broke	n Train	collision	9	. Obstructio	on	1	2. Other	impacts	3					04	
HAZMAT		10. HAZI Damaged	MAT C /Derail	lars ed		11 H.	. Cars Re AZMAT	leasir	ng		12. Pe Evacu	ople ated		13. Divi			ision			
14 Noorost City/Town	23	0			1	15. M	ilepost		0	16.5	ate			0 17 C	ounty		S	Springfiel	d	
14. Nearest City/10wi	n S	Sleeper				(to nearest t			MO		br Co	Code 29		LACI			DE			
18. Temperature (F)		19. Visib	ility	(sing	gle entry)	Code	20.	Weather (single		entry) Cod		Code	1	21. Type of Track				Code	e	
(specify if minus) 70	F	1.1	Dawn Day	3.D 4.I	usk Dark	2		1. Cle 2. Cle	. Clear 3. Ran 2. Cloudy 4. Fog		n 5.Sleet		1	1. Main 3. 2. Yard 4.		. Siding . Industry		1		
22. Track Name/Nur	mber					23. FF	A Track		Code 24. Annual Track		rack Der	nsity		25. Time Table D			Direction		e	
		Sir	igle Ma	ain Tr	ack	CI	ass (1-9,	X)	3	(gross tons in millions) 10		10.49		1. North		th 3. East		I A		
			-				OPEI	2 A T	ING TPA	IN #	1		10.19			2. Souti	1 4.	west		
OPERATING TRAIN#1																				
Consist (single en	try) 2.	Passenger	train	4. wo	igle car 8	. Light l	oco(s).	А	. spec. Mo	w Equ	np. Co		Attended	d?	un c	oue	20. 1		ibei/Sym	1001
	3.	Commute	train	6. Cu	t of cars 9	. Maint.	inspect.c	ar			1		1. Yes	s 2.	2. No 1 MSTLTUL129					
29. Speed (recorded speed, if available) Code 31. Method(s) of Operation (enter code(s) that apply) 31a. Remotely Controlled Locomotive?												motive?								
R - Recorded	natic	block	m.Sp	ecial inst	tructions	ck	0	= Not a	remote	ly co	ntrolled									
E - Estimated 37 MPH R b. Auto train control h. Current										0. Po	sitive tra	in contro	ol	2	= Remo	ote conti	roi po rol to	wer		
30. Trailing Tons (gross tonnage, d. Cab i. Trail of d. Cab i. Track v									nt control	p. Ot	her (Spe	ecify in n	arrative) 3	= Remo	ote cont	rol			
excluding power units) e. Traffic k. Direc									ïc control		Co	de(s)		_	transmit	tter - me	ore th	an one		
		. 8595		f.	Interlocking	g	l.Yard li	mits		e	N/A	N/A 1	N/A N/A	A		.011101	1 41151	linter	0	
32. Principal Car/Unit	1	a. Initial a	and Nu	mber	b. Positio	on in Tra	un c.	Load	led(yes/no)	33.	If railroa	d emplo	yee(s) te	ested i	for drug	/alcoho	l use,	,		
 First involved (derailed struck e 	1		1			N/A		the app	ropriate	box.	ere po	ositive ii	1		Alcohol	Drug	s			
(2) Causing (if med			0			NI/A	34	. Was th	is consis	st transpo	orting	passen	gers? (Y	//N)	0	1 0				
cause reported)	Midia	Troin		Rear End		26.0				1	Load	ed	I	Emp	oty	N				
55. Locomotive Onit		End	b. Mar	nual	c. Remote	d. Man	ual c. Re	emote	50. Cars	\$			a. Freig	ht t	o. Pass.	c. Frei	ght	d. Pass.	e. Caboo	ose
(1) Total in Train	1	3	(D	0	0	()	(1) Total	in Eq	uipment	Consist	56		0	44	ı	0	0	
(2) Total Derailed	d	3	(D	0	0	()	(2) Total	Derai	led		4		0	1		0	0	
37. Equipment Dama	ige		3	8. Tra	ick, Signal, V	Way,			39. Prima	ary Ca	use			4	0. Conti	ributing	Cau	se		
This Consist	\$	917,292.00		& Strı	icture Dama	ge	\$341,000).00	Code			H2	21	C	Code			H	199	
41 5	40 E	Number	of Cre	ew Members					Lengt				Length	of Time on Duty						
41. Engineer/ Operators 1	42. Fire	emen		+3. CC	hiductors	44.1	44. Drakemen		45. Engineer/Operator			мі	50		46. Conductor Hrs 6			Mi 50	,	
				0.75	1		0		6 Mi 50				50					Duonoulu	A mas a d 2	
Casualities to:	Casualties to: 47. Railroad Employees 4				in Passenger	:s 49	49. Other		- J Yes 2 No 1			1	1 Yes 2 No							
Fatal 0					0		0		52 Caboose Occupied by Craw?				/?	1. 105						
Nonfatal		2			0		0		1. Yes 2. No					0	N/A					
						(OPERA	TIN	G TRAIN	1#2										
53. Type of Equipmen	nt 1.	Freight tra	in .	4. Wo	ork train 7.	Yard/sv	vitching	A	. Spec. MoV	V Equ	ip. Cod	le 54. '	Was Equ	iipme	ent C	ode	55. T	rain Nun	ber/Sym	bol
Consist (single en	try) 2.	Passenger	train train	5. Sin	gle car 8.	Light lo	oco(s).				1.	4	Attended	1?				AL 928		
56 Speed (manual 1	J.	available	Code	0. Cu	Method(s)	of Oper	uispect.ca	u (ant:	ar code(s)	that a			1. Yes	159	NO Rem	telv C	ontro	lled Loco	motive?	
R - Recorded	speea, if	uvuilü0le)	Code	a.	ATCS	or Open	g. Autor	natic	block	m.Sp	ecial inst	tructions		0 = Not a remotely controlled						
E - Estimated	K - Recorded M R R L L R											main tra	ck	1	= Remo	ote cont	rol p	ortable		

DEPARTMENT FEDERAL RAILR	OF TRAI	NSPORT OMINIST	TATIO RATI	ON ION	FRA FA	CTUAI	LRAILR	OAD AC	CCIDENT REP	ORT	F	RA File	# <u>HQ-200</u>	9-30		
57. Trailing Tons (gra excluding powe		C. d. e	Auto train Cab Traffic	stop i. 7 j.T k	Time table/ti Track warran Direct traffi	rain orders of t control l c control	o. Positive train cont p. Other (Specify in Code(s)	rol narrative)	2 = Remo 3 = Remo transmit	te control ote contro ter - more	tower 1 e than one					
		7948		f.	Interlocking	1.Y	ard limits		e N/A N/A	remote c	0					
59. Principal Car/Unit a. Initial and Nu					b. Positio	c. Load	led(yes/no)	60. If railroad em	ployee(s) tes	ted for dru	'					
(1) First involved (derailed struck etc) BN575533				3	12	9		yes	enter the num the appropriat	ber that were e box	e positive i	n	Alcohol	Drugs		
(2) Causing (if mechanical							61 Was this con	sist transport	ting passengers? (Y/N)			0				
cause reported) 0				0		1	N/A			ing pussen	N/A					
62. Locomotive Units a. Head End b. Ma			Mid T anual	rain c. Remote	Rea 1. Manual	r End	63. Cars		Lo a. Freight	b. Pass.	E c. Freigh	mpty 1t d. Pass.	e. Caboos			
(1) Total in Train		3		0	0	0	0	(1) Total in	Equipment Consist 41		0	95	0	0		
(2) Total Deraile	(2) Total Derailed 0 0			0	0	0	0	(2) Total Derailed 7			0	0	0	0		
64. Equipment Dama This Consist	age	32 454 00		65. Tra	5. Track, Signal, Way,			66. Primary Cause			67. Cont Code	ributing C	Cause	N/A		
	р .	Numbe	r of Ci	rew Me	mbers	age				Length of	Time on D	uty		N/A		
68. Engineer/	69. Fire	men		70. Co	onductors	71. Bra	kemen	72. Engin	eer/Operator		73. Conductor					
Operators 1		0			1		0		Hrs 4 M	1i 50	Hrs 4 Mi					
Casualties to:	74. Railro	oad Emplo	oyees	75. Tra	in Passengers	76. Oth	er	77. EOT I	Device?		78. Was	EOT Dev	ice Properly	Armed?		
Fatal		0			0		0		1. Yes 2. No 1				1. Yes 2. No			
Nonfatal		0			0				1. Yes 2. No				1			
						0	PERATIN	G TRAIN #3								
80. Type of Equipment 1. Freight train 4. Work train 7. Yard/switching A. Spec. MoW Equip. Code 81. Was Equipment Code 82. Train Number/Symbol																
Consist (single en	try) 2. I 3 (Passenger Commuter	train train	5. Sing	gle car 8. I	Light loco	(s).		N/A	1. Yes	2. No N	J/A	N/A	L		
83. Speed (recorded	speed, if a	vailable)	Code	e 85.	Method(s) of	f Operation	n (ente	r code(s) th	hat apply)		85a. Remo	otely Con	trolled Loco	motive?		
R - Recorded	R - Recorded a. ATCS g. Automatic								n.Special instruction	s ack	0 = Not a	remotely	controlled			
E - Estimated	N/A	MPH	N/A	b.	Auto train co	ontrol h. ston i. 7	Current of the Time table/the	raffic " rain orders	 Outer than main the outer than the outer the out	rol	1 = Remo 2 = Remo	ote control	tower			
84. Trailing Tons (84. Trailing Tons (gross tonnage, avaluating power units)								p. Other (Specify in	narrative)	3 = Remo	ote contro	1			
excluding powe	N/A		e. f.	Traffic Interlocking	k. 1.Y	Direct traffi ard limits	c control		N/A N/A	remote c	ter - more ontrol tra	nsmitter	N/A			
96 Dringing Con/Unit					h Positio	n in Train	c Load	ed(97 If soilsood own		ad fan dmi	-/o1oobo1				
(1) First involved					D. I Oshio		C. Load	(yes/no)	enter the num	ber that were	e positive i	n	Alcohol	Drugs		
(derailed, struck,	etc)		N/A		N	/A		N/A	the appropriat	e box.			N/A	N/A		
(2) Causing (if mechanical cause reported) N/A					N	/A]	N/A	sist transport	ting passengers? (Y/N) N/A						
89. Locomotive Uni	ts	a. Head End	h M	Mid T	rain	Rea 1 Manual	ur End	90. Cars		a Freight	b. Pass.	E c Freigh	mpty nt d Pass	e Caboose		
(1) Total in Train	n	N/A	D. MA	J/A	N/A	N/A	N/A	(1) Total ir	n Equipment Consist	N/A	N/A	N/A	N/A	N/A		
(2) Total Deraile	d	N/A	N/A		N/A	N/A	N/A	(2) Total E	Derailed	N/A	N/A	N/A	N/A	N/A		
91. Equipment Dama	Inge			92. Tra	ck. Signal, W	/av.		93. Primar	v Cause Code		94. Cont	 ributing C	lause	I		
This Consist		N/A		& St	ructure Dama	age	N/A	N/A Code N/A								
	r of Ci	rew Me	mbers			Length of Time on Duty										
95. Engineer/ Operators N/A	96. Fire	men N/A		97. C	N/A	98. Bra	kemen N/A	99. Engin	99. Engineer/Operator 100. Conductor							
Coquelties to:	101 Rail	road Emn	lovees	102	Train	103 Of	her	104 FOT			105 Wa	s FOT De	vice Proper	lv		
Fatal	101. Kaliroad Employees			102.	N/A	105.01	105. Other		1. Yes 2. No N/A 1. Yes 2. No N/A							
I atat N/A			_	N/A			106. Caboose Occupied by Crew?									
Nonfatal	N/A			N/A		N/A	1. Yes 2. No N/A									
107		Highw	ay Us	er Inv	olved			Rail Equipment Involved								
C. Truck-7	railer. F	. Bus	J	. Other	Motor Vehic	ele	Code		3.Trair	(standing)	6.Light	Loco(s) (moving)	Code		
A. Auto D. Pick-U B. Truck E. Van	p Truck C H	i. School] I. Motorcy	Bus J vcle I	K. Pede M. Othe	strian ² r (<i>spec. in na</i>	arrative)	N/A	1.1rain(units pulling) 4.Car(s) (moving) 7.Light(s) (standing) 2.Train(units pushing) 5.Car(s) (standing) 8.Other (specify in narrative)					N/A			
108. Vehicle Speed		N/A	109.		geographic	al)	Code	112. Position of Car Unit in								
(est. MPH at in	ıpact)	IN/A	1.Nor	th 2.So	outh 3.East	4.West	N/A				N/A					

DEPARTMENT OF TRANSPORTATION FRA FACTUAL RAILROAD ACCIDENT REPORT FRA File # HQ-2009-30 FEDERAL RAILROAD ADMINISTRATION FRA FACTUAL RAILROAD ACCIDENT REPORT FRA File # HQ-2009-30												-30	
110. Position							Code	113. Circui	nstance				Code
1. Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossing 1. Rail Equipment Struck Highway User 4. Trapped N/A													N/A
114a. Was the	114a. Was the highway user and/or rail equipment involved Code 114b. Was there a hazardous materials release												
in the impact transporting hazardous materials?												N/A	
1. Highway User 2. Rail Equipment 3. Both 4. Neither 1974 1. Highway Oser 2. Rail Equipment 5. Both 4. Neither													
114c. State here the name and quantity of the hazardous materials released, if any. N/A													
115. Type 1. Gates 4 Wig Wags 7. Crossbucks 10. Flagged by crew 116. Signaled Crossing Code 117 Whistle Ban												Code	
Crossing 2.Cantilever FLS 5.Hwy. traffic signals 8.Stop signs 11.Other (spec. in narr.) (See instructions for codes) 1. Yes Warning 3.Standard FLS 6.Audible 9.Watchman 12.None 2. No													
Code(s)	N/A	N/A	N	/A	N/A	N/A	N/A	N/A	N/A 3. Unknown				
118. Location of Warning Code 119. Crossing Warning Code 120. Crossing Illuminated by Street 1 Both Sides with Highway Signals Lights or Special Lights											d by Street ghts	Code	
2. Side of					1. Yes			1. 1	Yes				
3. Opposit	e Side of Vehic	ele Appro	bach		N/A		2. No 3. Unknown		N/A 2. No 3. Unknown				N/A
121.	122. Driver's	Gender	Code	123.	Driver Drov	ve Behind o	or in Front of	Code	124. Driv	er			Code
Age	1. Male				and Struck o	r was Struc	k by Second	Гrain	1. Drov	e around or th	ru the Gate	4. Stopped on Crossing	
N/A	2. Female	e	N/A		1. Yes	2. No	3. Unknowi	N/A	2. Stop] 3. Did 1	ot Stop	roceeded	5. Other (specify in narrative)	N/A
125. Driver Pa	ssed	Cod	e 12	6. Vie	w of Track C	bscured by	(primary ob	struction)					Code
Highway V	ehicle			1. P	ermanent Str	ucture	Passi	ng Train 5. '	Vegetation	7. Other	(specify in	narrative)	
1. Yes 2. No	3. Unknown	IN/.	A	2. S	tanding Railı	oad Equip	ment 4. Topo	graphy 6. l	Highway Veh	cle 8. Not o	ostructed		N/A Code
Casualties to: Killed Injured							ver d 2.Injured 3.	Uninjured	Uninjured Code		128. Was Driver in the Vehicle? 1. Yes 2. No		
129. Highway-Rail Crossing Users N/A N/A						130. Hig (est.	130. Highway Vehicle Property Damage (est_dallar damage) N/A (include driver)					of Highway-Rail Crossin N/A	g Users
132. Locomotive Auxiliary Lights? Code 133. Locomotive Auxiliary Lights Operational?											Code		
1. Yes 2. No							N/A 1. Yes 2. No				N/A		
134. Locomot	ive Headlight I	lluminat	ed?				Code	135. Locor	notive Audibl	e Warning Sou	inded?		Code
1. Y	es	2.	No				N/A	1.	1. Yes 2. No				N/A



136. DRAW A SKETCH OF ACCIDENT AREA INCLUDING ALL TRACKS, SIGNALS, SWITCHES, STRUCTURES, OBJECTS, ETC., INVOLVED.

137. SYNOPSIS OF THE ACCIDENT

A BNSF Railway Company (BNSF) westbound freight train, proceeding at 37 mph, struck the side of a stopped BNSF eastbound freight train on June 29, 2009, at 8:20 a.m. CDT. (All times listed are in CDT.) The stopped eastbound freight train had been previously routed into a siding and the rear 11 cars were occupying the main track. The accident occurred at milepost (MP) 175.7 on the BNSF Cuba Subdivision at Sleeper, Missouri. The collision resulted in the derailment of three locomotives and five cars of the westbound train, and seven cars of the eastbound train. Both crew members of the westbound train sustained non life-threatening injuries and were trapped in the lead locomotive until rescuers removed the left front window and assisted them out. There were no injuries to the crew of the eastbound train. There was no release of hazardous materials.

At the time of the accident it was daylight and clear. The temperature was 70 °F.

The accident was caused by the failure of the westbound crew to comply with a signal displaying a stop indication at the west end of the siding at Sleeper. Based on FRA analysis, a contributing factor of fatigue experienced by the train crewmembers operating the striking train was probable.

138. NARRATIVE

Circumstances Prior to the Accident

Train Symbol M-STLTUL1-29A

The crew of westbound train symbol M-STLTUL1-29A (Train No. 1 WB) consisted of an engineer and conductor. They first went on duty at 1:30 a.m. on June 29, 2009, at the BNSF Lindenwood Yard Office in St. Louis, Missouri. This was the away-from-home terminal for both crewmembers, and both received more than the statutory off-duty period prior to reporting for duty.

Train No. 1 WB originated in Venice, Illinois, on June 28, 2009, at the Terminal Railroad Association of St. Louis (TRRA) Madison Yard. TRRA mechanical department employees completed the Class I Air Brake Test at noon that day. A BNSF transfer crew then operated it from Madison Yard to Lindenwood Yard, where the head 58 cars and 3 locomotives were removed. A block of 38 cars and 3 serviced locomotives were added to the head-end. Ten military flat cars loaded with M-1 Abram Tanks were included in the 38-car block. The 38 cars received a Class I Air Brake Test and pre-departure inspection at Lindenwood Yard prior to the train's departure.

Train No. 1 WB departed St. Louis at 2:25 a.m., with the engineer seated at the controls on the north side of lead locomotive No. BNSF 5764, with the short end forward. The conductor was seated at his desk on the south side. Their train consisted of 3 locomotives, 56 loads, 44 empties, 6,236 feet long, and weighed 8,625 tons. The train was destined for Springfield, Missouri, with no change in the consist.

Train Symbol H-TULGAL9-28A

The crew of eastbound freight train symbol H-TULGAL9-28A (Train No. 2 EB) included an engineer and a conductor. They first went on duty at 3:30 a.m., June 29, 2009, at the BNSF Yard Office in Springfield. This was the home terminal for both crewmembers, and both received more than the statutory off-duty period prior to reporting for duty.

Train No. 2 EB consisted of 3 locomotives, 41 loads, 95 empties, 7,459 feet long, and weighed 7,948 tons.

This train received a Class 1 Air Brake Test before departing Tulsa, Oklahoma. It was destined from Springfield to St. Louis.

When Train No. 2 EB departed Springfield at 4:53 a.m., the engineer was seated at the controls on the south side of lead Locomotive No. BNSF 4383, with the short end forward. The conductor was seated at his desk on the north side. At approximately 6:25 a.m., near MP 206.9, the engineer and conductor exchanged locations and duties. The conductor, also a certified locomotive engineer, seated himself at the controls and began operating the train. He also continued the conductor's duties of completing the BNSF required Signal Awareness Form. The locomotive engineer seated himself at the conductor's desk. (Regardless of their duties, the conductor will continue to be referred to as the conductor and the engineer will be referred to as the engineer in this report.)

At 7:15 a.m., the BNSF Cuba Subdivision train dispatcher, located in Fort Worth, Texas, contacted the crew of Train No. 1 WB via radio, to confirm the footage of their train. A crewmember stated their train was 6,235 feet in length. The dispatcher then stated they would meet a train 7,500 feet in length at Sleeper, and this was acknowledged by a crew member. The dispatcher then contacted Train No. 2 EB, via radio, and told the crew that their train was lined into the Sleeper Siding to meet a train. This was acknowledged by a crewmember of Train No. 2 EB.

At approximately 7:20 a.m., Train No. 2 EB operated by a track side warning detector located at MP 193.8. The axle count provided matched the information shown on the train consist. At 7:54 a.m., it arrived at the west end of Sleeper Siding, MP 175.7, and was operated into the siding. The lead locomotive stopped 352 feet from the east end of the siding. The siding is 6,942 feet in length. Train No. 2 EB was 7,459 feet in length. This resulted in 11 cars fouling the main track west of the clearance point at the west end of the siding at Sleeper.

At approximately 8:18 a.m., Train No. 1 WB was approaching the westbound absolute signal at the east end of Sleeper Siding, MP 174.1. The Approach Signal Aspect being displayed would have come into view of the crew 2,106 feet prior to passing it. The conductor and engineer did not communicate to each other the name of the signal aspect displayed. They made no transmission on the radio indicating they were passing a signal displaying an Approach Aspect, requiring slowing to 30 mph and being prepared to stop before passing the next signal.

The conductor of Train No. 2 EB was asleep when the head end of Train No. 1 WB went by and woke him. He proceeded to the platform of his locomotive to inspect Train No. 1 WB and observed the train was not slowing down. He knew that his train would not be in the clear. He returned to the cab and asked the engineer if the crew of Train No. 1 WB knew the main track was not clear at the west end of the siding. The engineer then contacted Train No. 1 WB on the radio and told them the rear of Train No. 2 EB was fouling the main track. The conductor of Train No. 1 WB replied that they were operating on a clear signal.

As Train No. 1 WB approached the accident area, the engineer was seated at the controls on the north side of the lead locomotive. The conductor was standing in the middle of the cab adjacent to the control stand. The train was being operated in throttle position Run 3, at a recorded speed of 37 mph.

The method of operation in this area is by signal indication of a traffic control system (TCS) on single Main Track. The maximum authorized speed is 40 mph, as listed in BNSF Springfield Division, Timetable No. 6, dated January 17, 2007.

Beginning at MP 170.0 (5 miles east of the collision) the track profile indicates there are nine curves located between MP 170.0 and MP 175.1. There are 6 left-hand and 3 right-hand curves with varying degrees of curvature ranging from 3-degrees 26-minutes to 6-degrees 5-minutes. The steepest grade in this segment of track is 1.36 percent, and although somewhat undulating, it is basically ascending grade westbound from MP 170.0 to MP 174.4. Then, from MP 174.4 to MP 175.1, the grade is descending westbound. One-half mile prior to West Sleeper, MP 175.7, begins an ascending grade.

The railroad timetable directions are east and west. The geographic directions are northeast and southwest. Timetable directions are used throughout this report.

The Accident

Approaching the accident site, the crew of Train No. 1 WB failed to take appropriate action regarding an Approach Signal Aspect displayed at MP 174.1 at the east end of Sleeper Siding. Approximately 700 feet prior to passing a Red Absolute Signal Aspect displayed at the west end of Sleeper Siding, MP 175.7, the train was placed in emergency. Unable to stop before passing the signal resulted in striking stopped cars of Train No. 2 EB occupying the Main Track, at 37 mph. The three locomotives and five cars of Train No. 1 WB were derailed, with the two lead locomotives turned on their sides. The derailed cars included the 1st and the 13th through 16th cars, behind the locomotive consist. The 2-man crew of Train No. 1 WB sustained non life-threatening injuries. Seven cars of Train No. 2 EB were derailed, the 124th through 130th cars, behind the locomotives.

Analysis and Conclusions

Analysis - Toxicological Testing: The crews of Train No. 1 WB and Train No. 2 EB were transported to St. Johns Hospital in Lebanon, Missouri, for blood, breath, and urine testing.

Conclusion: Blood, breath, and urine tests were negative for the crewmembers of both trains.

Analysis - Train No. 1 WB Engineer and Conductor's Operating Performance: Train No. 1 WB was being operated at 37 mph approaching the accident site. The westbound absolute signal at the east end of Sleeper Siding, MP 174.1, was displaying an Approach Signal Aspect. This was verified by analysis of the download of the lead locomotive No. BNSF 5764 video camera, and the east end Sleeper Siding signal event recorder. At approximately 700 feet in advance of the westbound absolute signal at the west end of the Sleeper Siding, the crew observed a Red Signal Aspect and the engineer immediately made an emergency application of the train brakes. They were unable to stop, and Train No. 1 WB lead locomotive No. BNSF 5764 struck car No. BN 575533, the 129th car from the lead locomotive of Train No. 2 EB. The lead locomotive derailed and rolled onto it's left side. The conductor and locomotive engineer were thrown around in the cab.

After Train No. 1 WB came to a stop, the conductor of Train No. 2 EB was called, via radio, the engineer of Train No. 1 WB. The engineer stated they were trapped in the cab due to damage and position of locomotive from the accident. Approximately 30 minutes later, Sleeper Fire Department responders were able to remove a section of the windshield and assist them out of the locomotive. Following their removal, they were examined by EMS personnel from St. Johns Hospital, then transported to St. Johns Hospital in Lebanon by BNSF management personnel.

At the accident site, railroad managers entered the cab of locomotive No. BNSF 5764 and located a Signal Awareness Form, which the conductor was required by BNSF to maintain during the trip. The form had been completed from the beginning of the trip and indicated that the train had clear signals all the way from MP 7 to, and including, the westbound absolute signal at MP 174.1. However, the conductor had not entered required information at the top of the form, such as date, train symbol, and names of the conductor and locomotive engineer.

Conclusion: The crew of Train No. 1 WB failed to comply with the applicable operating rules regarding an approach signal displayed at the east end of the siding at Sleeper, and, a stop signal displayed at the west end of the Sleeper Siding. The crew also failed to communicate to each other the name of the signal aspect displayed by the westbound absolute signal at the east end of Sleeper Siding when it became visible, as required by General Code of Operating Rules (GCOR) No. 1.47(C)(2). After receiving the approach signal at the east end of the siding, the crew failed to reduce their speed to 30 mph and proceed prepared to stop at the next signal, as required by GCOR No. 9.1.8. After receiving a red signal at the west end of the siding, the crew failed to stop their train before getting by the signal, as required by GCOR Nos. 9.1.15 and 9.5.

Analysis - Train No. 2 EB Engineer and Conductor's Operating Performance: Train No. 2 EB was stopped on the siding at Sleeper with 11 cars with approximately 869 feet of their train fouling the main track at the west end. As the conductor and engineer were reviewing their consist, they observed from the locomotive controls that the end of train device at the rear of their train was showing zero air pressure for the brake system, and shortly thereafter the train experienced an emergency application of the air brakes. The conductor then called Train No. 1 WB. The Train No. 1 WB engineer responded and stated that Train No. 2 EB was not in the clear.

FRA FACTUAL RAILROAD ACCIDENT REPORT

He said their locomotive was turned over, and they were hurt. Upon being advised of this, Train No. 2 EB conductor made an emergency call to the train dispatcher requesting emergency vehicles be sent to the west end of Sleeper Siding. The conductor then got his gloves and portable radio and began walking towards the rear of his train. Train No. 2 EB engineer remained on the locomotive. As the conductor walked towards the collision site, he found the 13th through the 16th car of Train No. 1 WB derailed. Arriving at the point of collision, he shut down locomotive No. CSXT 549, which was still running. After determining Train No. 1 WB conductor and engineer were out of their locomotive and being treated by emergency personnel, he aided firefighters with identifying hazardous materials cars in both trains.

Conclusion: The actions of the crew of Train No. 2 EB did not contribute to this accident.

Analysis - Emergency Response: The Laclede County Office of Emergency Management, Sleeper Fire Department, Lebanon Fire Department, Eldridge Fire Department, St. Johns EMS, Laclede County Sheriff, Missouri State Highway Patrol, and Missouri Department of Natural Resources responded to the accident.

Conclusion: Sleeper Fire Department personnel extricated the conductor and engineer from locomotive No. BNSF 5754. St. Johns EMS examined and treated the conductor and engineer for minor injuries. Sleeper and Lebanon Fire Department Personnel inspected both trains for hazardous materials leaks, and none were located. Emergency response personnel stayed on the scene until 3 a.m., June 30, 2009.

Analysis - Fatigue: The Federal Railroad Administration (FRA) obtained fatigue related information, including a 10-day work history, for the crews of Train No. 1 WB and Train No. 2 EB.

Conclusion: Upon analysis of that information, FRA concluded fatigue was probable for both members of both crews however, the engineer and conductor of Train No. 2 EB were stopped where they should have stopped; consequently, the possibility of fatigue related to this crew did not play a part in this accident. However, fatigue related to the crew of No. 1 WB is considered as a contributing factor in this accident.

Overall Conclusions: The railroad was in full compliance with their own and Federal standards.

Probable Cause & Contributing Factors

Primary Cause Code H-221 - Automatic block or interlocking signal displaying a stop indication - failure to comply. Secondary Cause Code H199 - Employee physical conditions, other - FRA fatigue analysis finds that fatigue of the crewmembers operating the offending/striking train was probable.

The FRA has conducted an independent investigation and concurs with the BNSF's accident cause findings.