



## Brotherhood of Maintenance of Way Employes Division of the International Brotherhood of Teamsters

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October 6, 2017

Mr. Robert Gordon, Investigator-in-Charge  
National Transportation Safety Board  
490 L'Enfant Plaza East, S.W.  
Washington, DC 20594

**RE: Proposed Findings, Proposed Probable Cause, and Proposed Safety Recommendations in the matter of two BNSF Employee (Roadway Worker) Fatalities in Edgemont, SD on January 17, 2017; NTSB Docket No: DCA17FR004.**

Dear Mr. Gordon:

The Brotherhood of Maintenance of Way Employes Division (BMWED) of the International Brotherhood of Teamsters has been granted party status by the Board in the above-referenced investigation. BMWED respectfully submits these Proposed Findings, Proposed Probable Cause, and Proposed Safety Recommendations to the Board for consideration.

### **Accident Synopsis**

On Tuesday, January 17, 2017, at 10:09 a.m. MST, BNSF Railway westbound train E-DOLEBM0-01E struck and killed two maintenance of way employees (Roadway Workers) at milepost 477, on the Black Hills Subdivision, in Edgemont, South Dakota. Train E-DOLEBM0-01E was approximately 7463 feet long and consisted of 4 locomotives and 135 cars. The three-person maintenance of way crew (Roadway Work Group) were clearing ice and snow from the track switch on main track 1. The crew of the striking train gave audible warning and applied emergency braking after they observed the employees on the track. The train was unable to stop before reaching the work location. The train strike resulted in two employee fatalities; the third member of the work group was uninjured. Prior to the emergency brake application, the train was traveling at approximately 35 mph. The weather at the time of the accident was clear, with calm wind, and reported temperatures ranging from 13° to 18°.

### **Train Information:**

Westbound BNSF (striking) Train E-DOLEBM0-01E, consisted of two (2) locomotives on the head-end (BNSF 8489 and BNSF 9826) and two (2) distributive power units ("DPU" BNSF 8537 and BNSF

8400) on the rear of the train.<sup>1</sup> The train was comprised of 135 empty coal cars totaling 2,849 tons and was 7,167 feet long (total length 7,463' including the locomotives). The crew picked up the train at MP 475.1 on the Butte Subdivision.

### **Test Train:**

Prior to the E-DOLEBM0-01E (striking train) coming on duty, a test train placed in the Deadwood Wye track was to be pulled out and tested on Main No. 1, once E-DOLEBM0-01E had cleared the area. The train crew for the test train had to get the locomotives (BNSF 9180 lead) from the depot and couple on to the test train using the No. 1 mainline hand throw operated switch leading into the west leg of the Deadwood Wye track.

In his interview, the BNSF General Director of Operating Practices and Rules confirmed that the test train was long-planned in advance.

“And so we had had for several weeks, I want to say even maybe several months, had a -- had this test train or this test plan in the works and in the making to where we identified a cut of 10,000 feet of auto racks was here on the Deadwood spur in Edgemont.

And so, in kind, we made our plans to conduct our test in Edgemont where these cars were in storage. And we coordinated with General Electric and a few others from my team and the locals here to prep to begin plans to be able to facilitate that test on the 17th of January.

So, the test plan was put together, again, like I said, several weeks before, and coordinating with the locals, with Jim [Trainmaster] and also Shad [Management-title unknown], who are local to Edgemont. We began corresponding several weeks prior to our arrival. (General Director of OP/Rules interview, page 7)

When asked if use of Maintenance of Way (MOW) personnel was part of the test plan, the General Director OP & Rules replied “No. They were not.” (Ibid)

### **Supervision**

The roadway workers involved in this accident worked under the general supervision of a Roadmaster (Chuck)<sup>2</sup> headquartered in Newcastle, Wyoming. The day before the accident, the Roadmaster traveled

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<sup>1</sup> Distributed Power Unit (“DPU”) is a term used when locomotives are strategically placed within a train to maintain buff/draft forces – all locomotives are controlled by the lead locomotive.

to Scotts Bluff, Nebraska to attend BNSF meetings for two days. On the day of the accident, about 6:45 a.m., the Roadmaster assigned a track inspector from Newcastle some of his duties, including contacting a train dispatcher for some track time to protect workers that were going to do some track-welding work.

The track inspector contacted the train dispatcher about 7:20 a.m. concerning the necessary track time needed for the welding. During this conversation, he found out about locomotives coming out of Edgemont Yard and going to the Deadwood Wye for a test train that would come out onto the main track and begin brake testing later that day. He knew that the Deadwood Wye had not been used for some time, so he decided to tell the Edgemont section foreman that they may be needed at the Deadwood Wye to clean snow and ice from the highway-rail grade crossings so that the train could be coupled together.

### **MOW<sup>3</sup> Crew**

The Edgemont section crew, consisting of a section foreman, a truck driver, and trackman, went on duty at 7:30 a.m. at Edgemont Yard. The Temporary Supervisor (Track Inspector) called the Edgemont section house at from his desk in the Roadmaster's office in Newcastle, Wyoming to conduct the morning job briefing. He spoke, on speakerphone, with the Foreman and the Regular Truck Driver, but not with the Trackman (who was also in the room).

After receiving their briefing and job assignment from the Temporary Supervisor, the section foreman and the truck driver took the truck down to the 18 Cutacross Road crossing, Department of Transportation (DOT) crossing number 088754H, on the west leg of the Deadwood Wye track. The trackman operated a front-end loader over the road to the Cuttacross Road crossing to assist in the snow removal. The frontend loader (operated by the trackman) worked between the cut of cars clearing snow piles from the ends of crossing while the track foreman and truck driver worked with the test Train Foreman (Michael) and Trainmaster (James) cleaning snow and ice from the inside of the rails so that the car wheel flanges would stay on the rail as the train was coupled together.

Earlier that morning, the test train crew reported the Main Track 1 switch was difficult to throw due to snow and ice accumulation. The Trainmaster (James) attempted to call the Roadmaster<sup>4</sup> (Chuck) to

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<sup>2</sup> For the purpose of protecting the privacy of individuals, BMWED will only use first names when referencing individuals.

<sup>3</sup> Maintenance-of-Way

<sup>4</sup> The Roadmaster is the manager with supervisory responsibility for MOW forces in Edgemont, SD.

inform him of the difficulty with the switch; however, there was no answer so the Trainmaster left him a voice mail message.

While cleaning the crossing, the Trainmaster (one of several Transportation Managers on site for the test train) told the section foreman that the crew of the test train had difficulty operating the Main Track 1 switch to the west leg wye and that switch would need cleaning (snow and ice removal). He also told the Edgemont Section Foreman about an additional industry switch that needed cleaning.

There is no indication in the record that the Trainmaster job-briefed the MOW crew regarding on-track safety, nor does the record indicate that the MOW crew was notified by the Trainmaster or other transportation managers present that the test train was waiting for the pending movement of BNSF Train E-DOLEBM0-01E to clear the Main Track 1 switch.

### **Accident Narrative**

After the section crew finished cleaning the wye track crossings in the vicinity of 18 Cutacross Road, they returned to the section building. Upon returning, all three reunited in the section truck and proceeded to the west leg of the Deadwood Wye switch on Main Track No. 1, the location the Trainmaster told them about where the test train crew had difficulty operating the switch earlier that morning.

Upon arrival at the west leg of the Deadwood Wye switch, the truck driver filled out a "Watchman/Lookout Statement of On-track Safety" (pursuant to BNSF rules) as a pre-condition to the use of train approach warning for on-track safety. However, the record is unclear as to the scope or detail of the MOW crew's on-track safety briefing while in the section truck.

The truck driver was a qualified watchman/lookout per BNSF records. On the Statement of On-track Safety and while still in the crew truck, the watchman/lookout recorded at 10:03 a.m. that there was a minimum of 770 feet of sight distance<sup>5</sup> available to clear the track 15 seconds prior to the arrival of approaching train. The statement also indicated that the method of warning for approaching trains would be verbal, and that the designated place of safety would be the crew truck.

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<sup>5</sup> Sight distance is determined in the absence of trains and while "sightlines" are clear. BNSF provides no measuring tools, such as a range finder, for roadway workers to measure sight distances.

The section crew walked from the crew truck in the snow/ice conditions to the west leg of the Main Track 1 wye switch, and started cleaning the snow and ice from the switch points. The section crew truck was parked approximately 191 feet away from the west leg of the wye switch. As observed from the head end camera of Train E-DOLEBM0-01E, the truck driver (watchman/lookout) held a long-handle tool in both hands, the section foreman used a (Tanaka Model TBL7800R) backpack blower, and the trackman had a short-handled tool.

The only surviving member of the MOW crew confirmed at least 3 times in his interview that the watchman/lookout was not clearing snow or performing work on the switch.

Q. The gentleman that filled out the lookout tag, was he a working or was he looking out?

A. I don't think he was working, but I was -- he was here. I was here. I started knocking the snow and I went out on the end, started digging it out, and that's when it happened." (Mitchell Interview, page 15).

Q. The truck driver, he was -- he had the long-handle shovel. And he was chopping snow, ice, what have you?

A. I don't believe so." (Trackman Interview, page 15).

Q. You just say, hey, you're not doing what you're supposed to be doing; get off the track? Yeah. Did anyone challenge him when he was working?

A. I didn't. He wasn't working that I know of. (Trackman Interview, Page 35)

At the time of the accident, the watchman/lookout was positioned near the north rail between the running rails and east of the other two workers. The watchman/lookout was not equipped by BNSF with any visual and auditory warning equipment. As such, he likely placed himself in the foul of the track to be close enough to the crew to provide verbal and tactile warning of approaching trains. The section foreman was using the backpack blower<sup>6</sup> to remove snow, and was just west of the watchman/lookout between the running rails. The trackman, the furthest west person, had stepped out of the gage of the track and started removing ice and snow from the long rods using a short-handled shovel at the switch stand outside of the north rail. The head-end camera of the westbound train captured video of the eastbound train passing on Main Track 2 adjacent to the west leg of the Deadwood Wye switch on Main Track 1 at the time of the accident. It is also noted that the eastbound

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<sup>6</sup> The Tanaka Model TBL 7800R Backpack Leaf Blower in use at the time of the accident generates 77 decibels (dB (a)) at 50-feet according to the user's manual.

train on main track 2 had a DPU on the rear of the train, adding to the already substantial noise from the backpack blower in use.

### **Roadway Worker Protection Regulations**

Federal Regulations (49 CFR part 214, Subpart C) prescribe the minimum safety standards for roadway worker on-track safety. Train Approach Warning Provided by Watchmen/Lookouts (§214.329) is one of several forms of on-track safety prescribed by the regulation.

It is instructive to review several key definitions associated with the regulation, including Watchman/lookout, Train Approach Warning, and Roadway Work Group, in effect on the date of the accident. Those terms are defined as follows in §214.7, Definitions:

**Watchman/lookout** means an employee who has been annually trained and qualified to provide warning to roadway workers of approaching trains or on-track equipment. Watchmen/lookouts shall be properly equipped to provide visual and auditory warning such as *whistle, air horn, white disk, red flag, lantern, fuse*. A watchman/lookout's sole duty is to look out for approaching trains/on-track equipment and provide at least fifteen seconds advanced warning to employees before arrival of trains/on-track equipment. (Emphasis added)

**Train approach warning** means a method of establishing on-track safety by warning roadway workers of the approach of trains in ample time for them to move to or remain in a place of safety in accordance with the requirements of this part.

**Roadway work group** means two or more roadway workers organized to work together in a common task.

It is also instructive to review the specific regulatory requirements for Train Approach Warning Provided by Watchmen/Lookouts under the regulatory text of §214.329 in effect at the time of the accident:

#### **214.329 Train approach warning provided by watchmen/lookouts.**

Roadway workers in a roadway work group who foul any track outside of working limits shall be given warning of approaching trains by one or more watchmen/lookouts in accordance with the following provisions:

- (a) Train approach warning shall be given in sufficient time to enable each roadway worker **to move to and occupy a previously arranged place of safety** not less than 15 seconds before a train moving at the maximum speed authorized on that track can pass the location of the roadway worker.
- (b) Watchmen/lookouts assigned to provide train approach warning **shall devote full attention to detecting the approach of trains and communicating a warning thereof**, and shall not be assigned any other duties while functioning as watchmen/lookouts.
- (c) The means used by a watchman/lookout to communicate a train approach warning **shall be distinctive and shall clearly signify** to all recipients of the warning that a train or other on-track equipment is approaching.
- (d) Every roadway worker who depends upon train approach warning for on-track safety shall maintain a position that will enable him or her to receive a train approach warning communicated by a watchman/lookout at any time while on-track safety is provided by train approach warning.
- (e) Watchmen/lookouts shall communicate train approach warnings **by a means that does not require a warned employee to be looking in any particular direction** at the time of the warning, and that **can be detected by the warned employee regardless of noise or distraction** of work.
- (f) Every roadway worker who is assigned the duties of a watchman/lookout shall first be trained, qualified and designated in writing by the employer to do so in accordance with the provisions of Sec. 214.349.
- (g) Every watchman/lookout **shall be provided by the employer with the equipment necessary** for compliance with the on-track safety duties which the watchman/lookout will perform. (Emphasis added)

### **BNSF and Train Approach Warning**

The issue of properly equipping watchmen/lookout at BNSF has been a bone of contention for many years. BNSF has failed to comply with the clear requirements of the regulation (§214.329(g)) to “provide” watchmen/lookouts with the necessary and required (visual and auditory warning) **equipment** “such as whistle, air horn, white disk, read flag, lantern, fuse.” This is in spite of BNSF experiencing several other roadway worker fatalities<sup>7</sup> where unequipped watchman/lookouts were a primary or contributing factor. It is noteworthy that other railroads have and continue to properly equip their watchmen/lookouts with the necessary visual and auditory warning devices (such as whistle, air horn, white disk, red flag, lantern, fuse) in full compliance with the regulation.

Subsection 214.329(c) clearly mandates that the means for communicating a train approach warning “shall be distinctive and shall clearly signify” to all recipients that a train or other on-track equipment is

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<sup>7</sup> La Mirada, CA 5/7/08, Sunshine, AZ 1/23/2009, Minneapolis, MN 5/25/15

approaching. However, BNSF, in contradiction to the regulation, allows and encourages the wholesale default use of “verbal” (i.e., voice) warning in lieu of the specific regulatory requirement that watchmen/lookouts be provided with equipment to communicate a train approach warning [which] “shall be distinctive and shall clearly signify to all recipients of the warning” the approach of a train. (§214.329(c))

Logic dictates that there is nothing “distinctive” about the human voice in a Roadway Work Group setting that would, without error, “clearly signify” the approach of a train to a Roadway Work Group. Members of a Roadway Work Group (defined under 214.7), by necessity, must verbally communicate among themselves as they work together on a common task. By necessity, the foreman in charge of the crew uses verbal commands to direct and coordinate the work being performed, converse with the train dispatcher and train crews via radio, coordinate with other nearby MOW and Signal crews, and otherwise fulfill his/her duties as foreman/Roadway Worker-in-Charge.

The Roadway Work Group in Edgemont was working outside in below freezing weather and there was environmental noise from a combination of highway traffic and trains, as well as from power equipment used by the MOW crew. These are very typical working conditions for Roadway Work Groups nationwide. As such, the Federal regulation does not recognize “verbal” train approach warning as an acceptable form of TAW for Roadway Work Groups.

“Verbal warning” is neither “distinctive” nor does it “clearly signify to all recipients” the approach of a train. It is also important to note that nowhere in the definitions or regulatory text of Part 214C (effective 1997), or its subsequent amendments, are there any references to “verbal” warning as an acceptable means of compliance with the provisions of Train Approach Warning (§214.329).

Even more specific to this point, the regulatory text of §214.329(g) requires that “Every watchman/lookout shall be provided with the equipment necessary for compliance with the on-track safety duties which the watchman/lookout will perform.” However, BNSF has resolutely refused to provide their watchman/lookouts with the “equipment necessary” to provide a “distinctive” audible and visual train approach warning which “clearly signifies” the approach of a train.

### **BNSF Roadway Worker Fatality under TAW, January 23, 2009, Sunshine, AZ**

On Friday, January 23, 2009, 10:24 a.m. MT, a fatal roadway worker accident eerily similar to Edgemont, SD occurred on the BNSF in Sunshine, AZ under Train Approach Warning. There are astonishing similarities between the 2009 BNSF fatality in Sunshine, AZ and the 2017 BNSF double-fatalities in Edgemont, SD:



- Both fatal accidents involved three-man MOW crews.
- Both fatal accidents occurred on BNSF.
- Both fatal accidents occurred on main line Controlled Track<sup>8</sup>.
- Both fatal accidents occurred in double track territory on a curve.
- In both fatal accidents, a train occupied the adjacent track at the time the employees were struck on the track where they were working.
- In both fatal accidents, the MOW crew did not move to and occupy a predetermined place of safety upon approach of a train pursuant to §214.329(a).
- In both cases, the crews continued to work on the track while a train was passing or occupying the adjacent track.
- In both fatal accidents, there were noisy hand-held power tools/equipment in use at the time of the train strike.
- In both fatal accidents, the BNSF failed to equip the watchman/lookout with the regulatorily required auditory and visual warning devices.
- In both cases, the MOW crews were resigned to use “verbal warning,” which is the “default” warning due to BNSF’s failure to provide their watchmen/lookouts with the required (visual and auditory) warning equipment.

FRA’s investigation into the Sunshine, AZ fatality “*revealed that the watchman/lookout was using voice commands and hand signals to notify the roadway workers of approaching trains but did not have a whistle, air horn, or any other type of warning device that should be used to warn employees of an approaching train or other on-track equipment regardless of noise or distraction of work.*” In the Sunshine, AZ accident, FRA found the probable cause of the accident was “*employee assisting machine operator worked foul of the track and was struck by passing train.*” (BMWED note: It stands to reason that the employees worked foul of the track, as the employees were performing track maintenance under TAW.) FRA cited as contributing factors: “(1) *Failure to cease work when sight distance was reduced below minimum*; (2) *lack of audible warning devices*; and (3) *failure to properly clear all work crew members from right of way.*” [See BMWED Attachment 1; FRA Accident Report FE-2009-04, Sunshine, AZ] (Emphasis added)

Post-Sunshine, AZ, FRA did not press for changes to the BNSF rules. Post-Sunshine, AZ, BNSF did not address the obvious deficiencies (i.e., non-compliance) in its program by providing all watchmen/lookouts with the necessary visual and auditory warning devices as required by the clear language of §214.329(g).

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<sup>8</sup> *Controlled track* means track upon which the railroad’s operating rules require that all movements of trains must be authorized by a train dispatcher or a control operator. (See 214.7, Definitions)

BNSF failed to learn from and apply the lessons derived from the fatal accident in Sunshine, AZ (and other fatal accidents - See footnote 5) involving unequipped watchmen/lookouts. Virtually identical circumstances were present on January 17, 2017 in Edgemont, SD with a tragically similar and predictable outcome.

### **Railroad on-track safety programs, generally**

FRA regulations mandate the following requirements be part of each railroads on-track safety program under §214.303. Subsection 214.303 state, in its entirety:

- (a) Each railroad to which this part applies shall adopt and implement a program that will afford on-track safety to all roadway workers whose duties are performed on that railroad. Each such program shall provide for the levels of protection specified in this part.
- (b) Each on-track safety program adopted to comply with this part shall include procedures to be used by each railroad for monitoring effectiveness of and compliance with the program. (Emphasis added)

Following the BNSF fatalities in La Mirada, CA (5/7/08), Sunshine, AZ (1/23/09), Minneapolis, MN (5/25/15) and the 2017 double-fatality in Edgemont, SD, BNSF failed to take action to improve the “effectiveness of and compliance with” their on-track safety program by properly equipping watchmen/lookouts. Similarly, FRA has heretofore failed to address (1) BNSF’s non-compliance regarding its continued “default” use of “verbal” Train Approach Warning, (2) deficiencies in BNSF’s application of TWA and associated training relative to on-track safety briefings, hazard analysis, and hazard mitigation, (3) failure of BNSF to comply with the requirements to “equip” watchmen/lookouts with visual and auditory warning equipment, and (4) BNSF’s failure to effectively train employees on the necessity to clear to the predetermined designated place of safety upon receiving a TAW for approaching trains on any track.

### **Roadway Worker Protection Final Rule; 49 CFR, Part 214 C (effective Jan 1997)**

In the preamble to the 1997 Final Rule, published in the Federal Register on December 16, 1996, FRA discusses the “fundamental characteristics of train approach warning communication” and the criticality of providing such warning “without error.”

#### *Train Approach Warning Provided by Watchmen/lookouts: § 214.329*

Section 214.329 establishes the procedures for on track safety of groups that utilize train approach warning. A reference to the definition of train approach warning would be useful to the understanding of this section. Section 214.329 specifies the circumstances and the manner in which roadway work groups may use this method of on-track safety.

Prescribed here is the minimum amount of time for roadway workers to retreat to a previously arranged place of safety (usually designated during job briefing), the duties of the watchman/lookout **and the fundamental characteristics of train approach warning communication. This section further imposes a duty upon the employer to provide the watchman/lookout employee with the requisite equipment necessary to carry out his on-track safety duties.** It is intended that a railroad's on-track safety program would specify the means to be used by watchmen/lookouts to communicate a warning, and that they be equipped according to that provision. [FR, Dec. 16, 1996, page 65970] (Emphasis added)

*Training and Qualification of Watchmen/Lookouts: § 214.349*

Section 214.349 details the standards for qualification of a lookout, who by definition is responsible for the protection of others. **The definition of watchman/lookout is useful to understand the functions of roadway workers discussed in this section.** Watchmen/lookouts must be able to perform the proper actions in the most timely manner **without any chance of error** in order to provide proper protection for those who are placed in their care. [FR, Dec. 16, 1996, page 69572] (Emphasis added)

### **History of FRA's regulation & interpretive guidance, and BNSF's non-compliance with 214.329**

The genesis of the definition of watchman/lookout can be traced back to the Joint Labor/Management On-track Safety Task Force. This voluntary Task Force predated the Roadway Worker Advisory Committee established by FRA. This "pre-rulemaking" Task Force, comprised of representatives of several Class 1 railroads, railroad trade associations, and labor organizations, met during the preceding months (mid-1994 through 1995) to independently analyze the issue of on-track safety. The findings, definitions, and recommendations of the Joint Labor/Management Task Force were submitted to FRA in a "Summary Report and Recommendations of the Joint Labor/Management Task Force for On-Track Safety" dated January 1995 [See BMWED Attachment 2, Joint Labor-Management Task Force Report<sup>9</sup>] The Task Force report was considered by the Advisory Committee along with other information. The OTS Task Force 1995 Summary Report proposed the following definition for Watchman/lookout:

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<sup>9</sup> BMWED Attachment 2 includes hand-written notes made during subsequent Advisory Committee deliberations. These hand-written notes should be disregarded. (A "clean" copy of the Task Force Report could not be readily attained.) The typed text of the Report (BMWED Attachment 2) is the original text of the Task Force "Summary Report and Recommendations" as submitted to FRA in January 1995.

## **WATCHMAN/LOOKOUT:**

An employee who has been annually trained/qualified to protect employees/equipment against trains or on-track equipment. **Watchman/Lookout** must be properly equipped to provide visual and auditory warning such as whistle, air horn, white disc, red flag, lantern, fusee. A **Watchman's/Lookout's** sole duty is to look out for approaching trains/on-track equipment and provide at least fifteen seconds advanced warning to employees before arrival of trains/on-track equipment.

The definition of Watchman/Lookout proposed by the OTS Task Force substantially prevailed throughout the Advisory Committee's negotiated rulemaking. In the 1996 Final Rule (effective January 1997), FRA deviated slightly from the Task Force's proposed definition by changing "must be properly equipped...." to "shall be properly equipped...." This change from "must" to "shall" in the Final Rule was made by FRA to bring the Task Force's proposed definition in line with standardized regulatory construct, using the term "shall" to signify a mandatory (i.e., non-optional) duty.

Since 1997, BMWED raised the issue of "non-equipped" watchmen/lookouts with FRA and BNSF on numerous occasions and in numerous forums. In partial response to BMWED's concerns, FRA issued Safety Advisory 2004-01, dated May 3, 2004 [See BMWED Attachment 3 – Safety Advisory 2004-01]. SA-2004-01 states, in pertinent part,

When using train-approach warning, the watchman/lookout "**shall be provided by the employer with the equipment necessary for compliance with the on-track safety duties which the watchman/lookout will perform.**" (§ 214.329(g)). Watchmen/lookouts shall be **properly equipped to provide visual and auditory warning such as whistle, air horn, white disk, red flag, lantern, fusee** (§ 214.7). This section further **imposes a duty upon the employer to provide the watchman/lookout employee with the requisite equipment** necessary to carry out his on-track safety duties. [Federal Register, May 3, 2004, page 24221] (Emphasis added)

The closing paragraph of FRA SA-2004-01 concludes with the following affirmation regarding of the regulatory requirement to equip watchmen/lookouts with appropriate warning equipment:

Railroads are also reminded that it is **necessary to provide appropriate warning equipment to watchmen/lookouts** to enable them to effectively [provide] warning of approaching trains. **Such equipment includes whistles, air horns, white disks, red flags, lanterns, and fusees** (§ 214.7). [Federal Register, May 3, 2004, page 24222] (Emphasis added)

The language from SA-2004-01 (above) is virtually identical to the language FRA articulated in the 1996 NPRM, the 1997 Final Rule, the 2016 RWP Miscellaneous Revisions, and FRA's post-Edgemont response to NTSB.

BMWED formally raised this critical issue of "non-equipped watchmen/lookouts" again in its supplemental comments [See BMWED Attachment 4 – BMWED Supplemental Comments to FRA-2008-0086] to the Notice of Proposed Rulemaking (NPRM), published August 20, 2012, Miscellaneous Revisions (Docket No. FRA-2008-0086). BMWED specifically requested FRA to "*clarify in the Final Rule that the use of audible and visual warning devices expressly listed in the existing definition of watchman/lookout (214.7) are required mandatory equipment for providing Train Approach Warning under 214.329.*"

In the preamble to the Final Rule, RWP Miscellaneous Revisions, published June 10, 2016, FRA officially responded to the BMWED's formal request for clarification as follows [page 37850, 6/10/16 Federal Register]:

"BMWED's later comment expressed concern that some railroads are not providing watchmen/lookouts with any audible or visual warning devices to provide appropriate train approach warning. The comment points out the existing definition of the term 'watchman/lookout' in § 214.7 requires, in part, that roadway workers acting as watchmen/lookouts be properly equipped to provide visual and auditory warning, such as whistle, air horn, white disk, red flag, lantern, fusee. The comment urges FRA to clarify in this final rule that the use of such audible and/or visible warning devices are mandatory to provide train approach warning under § 214.329. **FRA concurs with the BMWED. Both the definition of watchman/lookout, and the operative train approach warning regulation at § 214.329(c) and (g), provide that watchmen/lookouts must be properly equipped to provide train approach warning.** As explained in the preamble to the 1996 final rule implementing subpart C:

[t]his section further imposes a duty upon the employer to provide the watchman/lookout employee with the requisite equipment necessary to carry out his on-track safety duties. It is intended that a railroad's on-track safety program would specify the means to be used by watchmen/lookouts to communicate a warning, and that they be equipped according to that provision. (61 FR 65970, Dec. 16, 1996.)

Thus, FRA emphasizes that under the existing RWP regulation, a railroad must properly equip a watchman/lookout with the **equipment** specified by the railroad's on-track safety program to properly communicate the warning. Except in limited circumstances (*e.g.*, a watchman/lookout assigned to provide train approach warning for a single welder and who is located immediately

next to the welder to provide a warning), **if a railroad does not provide equipment with the specified auditory or visual warning capabilities** to [for] the roadway workers a watchman/lookout is protecting, **the railroad is in violation of § 214.329**. If an **on-track safety program fails to specify the “requisite equipment necessary”** for a watchman/lookout to provide on-track safety for a roadway work group, **the program also is not compliant with part 214.**” (Emphasis added)

The FRA position espoused in the 1996 NPRM, 1997 Final Rule, Safety Advisory 2004-01, and the 2016 Final Rule (Miscellaneous Revisions), is clear and consistent in requiring, pursuant to the regulation, that the employer shall provide visual and auditory warning equipment to watchmen/lookouts protecting Roadway Work Groups.

FRA also affirmed this requirement in its Post-Accident Response to NTSB [See BMWED Attachment 5-FRA Post Interview Response] regarding Edgemont, to which FRA legal staff provided the following legal opinion to NTSB on June 29, 2017:

*3. Opinion from FRA legal staff as the definition of shall/will in § 214.329(g) for required roadway worker items.*

*Answer: Section 214.329(g) reads: “Every watchman/lookout shall be provided by the employer with the equipment necessary for compliance with the on-track safety duties which the watchman/lookout will perform.” The use of “shall” imposes a mandatory duty upon the employer to, as stated in FRA’s Roadway Worker Protection Compliance Manual, “provide the watchman/lookout employee with the requisite equipment necessary to carry out his on-track safety duties. It is intended that a railroad’s on-track safety program would specify the means to be used by watchmen/lookouts to communicate a warning, and that they be equipped according to that provision.” (Emphasis added)*

Inexplicitly, in the same Post-Accident Response to NTSB, FRA responds to NTSB’s request for any audits of BNSF Roadway Worker Protection Programs as follows:

*7. Any and all documents related to post-accident audits of BNSF Roadway Worker Protection Programs undertaken by the FRA for the time period of January 2017 through April 6, 2017 that arose from the Edgemont Accident, whether voluntarily done by BNSF or completed by FRA.*

*Answer: FRA’s investigation is ongoing at this time. With that said, following the Edgemont accident, as part of its investigation FRA reviewed the watchman/lookout provisions of BNSF’s On-Track Safety Program and noted no exceptions. (Emphasis added)*

It is inconceivable that FRA's post-Edgemont audit of BNSF's On-Track Safety Program notes "no exceptions," given the clear and unambiguous language of §214.329, over 20 years of interpretive regulatory guidance provided by FRA, as well as FRA's Post-Accident response to NTSB (bullet #3 above).

It is also highly instructive to note that the current regulation (49 CFR 214 C) includes Appendix A to Part 214 - Schedule of Civil Penalties. The Schedule of Civil Penalties, which has been in place since 1997, assigns a monetary penalty of \$2,000.00 per "violation" and \$4,000.00 per "willful violation" for "Failure to properly equip a watchman/lookout" as required by §214.329(g). FRA's Compliance Manual, dated January 2017 (Volume III, Chapter 3, Roadway Worker Protection), designates FRA defect code 0329G for "Failure to properly equip a watchman/lookout."

In view of the regulatory history above, FRA has failed to enforce this life-critical provision of the regulation and BNSF remains in non-compliance with the clear regulatory requirement to properly equip watchmen/lookouts.

### **Experience and Training**

The MOW crew was well experienced. The truck driver/watchman/Lookout (deceased) had over 37 years of MOW experience with BNSF. The foreman (deceased) had approximately 10 years MOW experience with BNSF. The surviving trackman had over 37 years of experience with BNSF. These were all exemplary employees with solid reputations as diligent, dedicated, safety-conscience professionals. In fact, the Operational Test Results (rules compliance audit report) which is part of the NTSB accident record shows that in 2016 BNSF conducted a combined 52 "observations" on the three MOW employees, with zero failures observed.

These employees had every reason to be confident that they were following BNSF rules as presented in BNSF training programs. The only surviving member of the MOW crew was asked in his interview:

"Would you say that the lookout procedure for your roadway worker protection was adequate for what you were doing, for your work?" He answered "yes." (Trackman Interview, page 18)

No one can change the facts or the circumstance surrounding the tragic double-fatality that occurred on January 17, 2017 in Edgemont, SD. However, we can and must ask the question "**why**" in order to understand what happened in Edgemont and prevent a similar tragedy elsewhere:

- **Why** was Train Approach Warning used as the form of on-track safety even though the roadway work group was not provided the required visual or auditory warning equipment?
  - **Proposed answer:** Because the BNSF rules and training instructed them that they did not need to be equipped with visual and audible warning equipment. As such, “verbal” warning has become the “default” form of warning under BNSF training and rules.
  
- **Why** did the MOW crew continue to work while a train passed on the adjacent track?
  - **Proposed answer:** Because the training provided by BNSF is deficient and does not clearly or effectively articulate instructions to “move to and occupy a previously arranged place of safety” upon receiving a TAW for approaching trains on any track.
  
- **Why** did the watchmen/lookout have a long-handle tool in his hands at the time of the accident?
  - **Proposed Answer:** Because the watchman/lookout was not provided by BNSF with the required “tools” (e.g., airhorn/whistle & flag/disk) for conveying the TAW. It is also possible that the watchman/lookout intended to use the shovel to provide a “tactile” (in addition to “verbal”) warning to the roadway workers under his care, given he was provided no watchmen/lookout equipment for conveying such warning.
  
- **Why** was the MOW crew comfortable with the use of a “verbal” warning from the watchman/lookout?
  - **Proposed answer:** Because this is a deficiency which is ingrained in BNSF’s roadway worker training and culture. BNSF MOW Rule 6.8 is extremely ambiguous regarding appropriate methods of warning. BNSF failure to provide their watchman/lookouts with the required visual or auditory warning equipment makes “verbal” warning the only available “default” warning on BNSF. The ambiguity of BNSF’s MOW Rule 6.8 is apparent, stating in part:
    - Use a method to warn employees of the approach of a train, engine or on-track equipment that:
      - Is distinctive, clear and unquestionable.
      - Does not require employees to be looking in any particular direction.
      - Can be detected by employees regardless of noise or work distractions.
        - Is identified in the job safety briefing.

**Analysis**

The failure of BNSF to provide watchman/lookouts with the “necessary equipment” and train them on the proper use of such equipment constitutes a significant deficiency in the BNSF’s training program.



When a railroad (i.e., employer) assigns a person to perform the duties of a watchman/lookout, it is incumbent on the employer, per Federal regulation, to provide the watchmen/lookout with the equipment necessary to provide the warning. **No railroad is required to use Train Approach Warning by Watchmen/lookouts; there are several other regulatory options available for on-track safety. However, railroads that choose to include TAW in their on-track safety program are required to properly equip their watchmen/lookouts as a regulatory condition of using TAW.**

An important but often overlooked “secondary benefit” of providing such warning devices (equipment) is that the watchman/lookout’s hands are “occupied” by the required visual (disk/flag) and auditory (air horn/whistle) equipment. Being properly “equipped” provides the assigned watchman/lookout a constant reminder of his/her sole duty to look out for approaching trains and provide advance warning to employees under his/her care. A properly equipped watchman/lookout is also readily identifiable to the roadway workers being protected under his/her care.

BNSF inappropriately puts the onus on their MOW crews to comply with the “distinctive, clear, and unquestionable” provision of MOW Rule 6.8, without regard to BNSF’s own responsibility as an employer to specifically provide the necessary and required warning equipment to their watchmen/lookouts. BNSF training, and BNSF rules, clearly convey that Roadway Work Groups can use TAW without watchmen/lookouts being equipped with visual and auditory equipment (warning devices). BNSF training, and BNSF rules, clearly convey that the absence of such audible and visual warning devices is in compliance with BNSF Rule 6.8.

In any workplace, workers have to be equipped with the proper tools to do the job. For instance, if you assign a worker to dig a hole, that worker must be equipped a shovel. If you assign a worker to drive a spike, that worker must be equipped a spike maul. And if you assign a worker to provide watchman/lookout protection, that worker must be equipped with the necessary visual and auditory warning equipment (i.e., tools “such as air horn, whistle, white disk, red flag, lantern, fusee”) to do the job.

Federal regulation clearly establishes the responsibility of the employer to provide the equipment (visual and auditory warning devices) necessary for TAW. **Federal regulations are minimum safety standards. Every railroad has the latitude to go above and beyond the minimum Federal safety standards; however, no railroad has the latitude to go below the Federally-mandated minimum standards.** Because BNSF does not equip their watchmen/lookouts with the required warning devices, they are in non-compliance with the minimum Federal standards governing the use of TAW. And because BNSF’s on-track safety program does not meet the minimum Federal standard, there is also an absence of training on the use of such proper “warning devices” in BNSF’s training program.

## **Proposed Findings**

- The MOW crew was assigned by their supervisor (Track Inspector delegated by the Roadmaster) to clean the crossings at and in the vicinity of Cutacross Road, where the test train would be coupling to auto rack railroad cars.
- The Track Inspector (as delegated by the Roadmaster) held a job-briefing with the MOW crew prior to the crew departing the section house.
- On site at Cutacross Road, the MOW crew observed several Transportation Managers and other transportation employees cleaning snow from the crossing. The MOW crew joined in the work of clearing the crossing. The MOW crew was told by the Trainmaster (not their immediate supervisor, but a “Transportation Official” of considerable authority working with the Test Train) that the test train crew had difficulty operating the Main Track 1 switch leading to the west leg wye switch. The Trainmaster directed the section foreman to clean the Main Track 1 switch of snow and ice when work at the crossing was completed. He also informed the section foreman of another industry switch that would also need to be cleaned (snow and ice removal).
- There is no evidence that the MOW crew was briefed by any of several transportation management officials on site or those otherwise involved with the test train (Trainmaster, Superintendent of Operating Practices, Train Foreman, and others working with the test train) regarding on-track safety protection for the snow removal work the MOW crew was directed to perform by the Trainmaster on the Main Track 1 switch.
- There is no evidence that the MOW crew was briefed by any of the several transportation managers on site that the test train was waiting for the near-time pending arrival of BNSF Westbound Train E-DOLEBM0-01E to pass the Main Track 1 switch (i.e., the accident site) leading to the west leg of the wye.
- The MOW crew felt some degree of pressure to follow the directive of the Trainmaster to clean the Main Track 1 switch, given the authority of the Trainmaster and the high level of priority the test train was given by the Transportation Officials present and responsible for conducting the long-planned test.
- The MOW crew used Train Approach Warning by Watchmen/lookout as their form of on-track safety.
- The MOW crew believed they were acting in compliance with BNSF rules and consistent with their BNSF training.
- The MOW crew was not provided by BNSF with any type of “rangefinder” or other means to accurately determine (measure) sight distance.
- BNSF failed to provide the watchman/lookout with the regulatorily required audible and visual warning equipment, such as whistle, airhorn, white disk, red flag, lantern, fuse.

- A “Statement of On-Track Safety” was filled out by the watchman/lookout as required by BNSF Rule 6.3.3, indicating:
  - There was [in the absence of trains on either main track], 770 feet of sight distance available to clear the track 15 seconds prior to the arrival of an approaching train;
  - The method of warning of an approaching train would be “verbal;”
  - The “designated place of safety” would be “the section truck.”
- An eastbound coal train was passing the MOW crew on the adjacent track (Main 2) at the time of the accident; however, the MOW crew continued to work on Main Track 1.
- The eastbound coal train on the adjacent track reduced the MOW crew’s “line of sight;” however, the MOW crew did not immediately recognize this change in conditions and the accident occurred while the east and westbound trains were passing each other at the accident location.
- The involved employees were not adequately trained by BNSF in hazard recognition and hazard mitigation. As a result, the briefing at the Main Track 1 switch was probably lacking this important element.
- There was noise from the eastbound train passing on the adjacent track, noise from the backpack blower in use, and other environmental noise (e.g., from highway traffic and railroad operations) at the accident location that impacted the ability of the MOW crew to detect the approaching westbound train.
- BNSF was in non-compliance with the clear and unambiguous requirements of the regulation (§214.329(g)) by failing to provide the watchman/lookout with the “equipment necessary” for performing the on-track safety duties of watchman/lookout.
- The several Transportation Managers on site with the test train were aware of and awaiting the pending arrival of westbound Train E-DOLEBM0-01E. However, the MOW crew was not job briefed by any of the Transportation Managers regarding the imminent arrival of the westbound train.
- 

### **Proposed Probable Cause**

**BMWED submits that the Proposed Probable Cause of the double-fatality in Edgemont, SD on January 17, 2017 was the BNSF’s failure to equip the watchman/lookout with the required visual and audible warning devices for providing Train Approach Warning, and the failure of BNSF to adequately train roadway workers in hazard analysis/mitigation and the proper use, application and limitations of TAW.**

BMWED proposes the following Probable Contributing Factors:

- Training deficiencies at BNSF related to the requirement “to move to and occupy a prearranged place of safety” upon receiving a TAW for trains or equipment approaching the work location on any track.
- Training deficiencies at BNSF related to the conduct and content of a comprehensive on-track safety briefings.
- Failure of FRA to enforce the clear regulatory requirement of §214.329(g), which states, “Every watchman/lookout shall be provided by the employer with the equipment necessary for compliance with the on-track safety duties which the watchman/lookout will perform.”
- Failure of BNSF to comply with the regulatory text and FRA’s numerous interpretive pronouncements that both the definition of watchman/lookout, and the operative train approach warning regulation at §214.329(c) and (g), provide that watchmen/lookouts “shall” be properly equipped to provide train approach warning.
- A perceived pressure among the MOW crew to accomplish the additional work directed by Transportation Officials due to the high priority officials put on operating the test train and the substantial authority wielded by the Transportation Officials on site with the test train.
- Failure of the Transportation Officials on site to job-brief the MOW crew regarding the pending arrival of westbound Train E-DOLEBM0-01E.
- Failure of BNSF to effectively train MOW employees in “hazard recognition and hazard mitigation” pursuant to NTSB Recommendation<sup>10</sup> outlined in the September 2014 Special Investigative Report on Railroad and Rail Transit Roadway Worker Protection.

### **Proposed Recommendations to BNSF**

1. Immediately issue compliant visual and auditory Train Approach Warning (TAW) equipment, such as airhorn, whistle, white disk, red flag, lantern, fuse, to every MOW crew using watchmen/lookout protection.

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<sup>10</sup>. Require initial and recurring training for roadway workers in hazard recognition and mitigation. Such training should include recognition and mitigation of the hazards of tasks being performed by coworkers. (NTSB Recommendation R-14-36) (NTSB Special Investigative Report, NTSB/SIR-14/04, page 55)

2. Prohibit, by (updated) rule, the use of TAW by watchman/lookouts when not properly equipped or where such visual and audible warning devices become inoperable.
3. Specify in (updated) MOW rules which combination(s) of of audible and visual warning devices are authorized for use pursuant to Federal regulation, and under what conditions.
4. Issue MOW crews using watchman/lookout protection “rangefinder” devices to accurately measure sight distances.
5. Conduct an emergency “stand down” with all roadway workers regarding the updated rules on watchman/lookout equipment and specify in detail the requirement to “move to and occupy a previously arranged place of safety not less than 15 seconds before a train moving at the maximum speed authorized on that track can pass the location of the roadway worker” on any track.
6. Establish specific “chain of command” procedures for intra-department coordination and job-briefings when employees from different departments (e.g., Transportation and Engineering Departments) are working together.
7. Effectively train MOW employees in hazard recognition and hazard mitigation pursuant to NTSB Recommendation outlined in the September 2014 Special Investigative Report on Railroad and Rail Transit Roadway Worker Protection.
8. Improve training related to the conduct of comprehensive on-track safety briefings, including hazard analysis and mitigation techniques/strategies.
9. Form a Labor/Management committee with the union(s) representing roadway workers to jointly review all roadway worker fatalities that have occurred on BNSF since the 1997 effective date of the Roadway Worker Protection regulation. Use the information derived therefrom to improve the effectiveness of the BNSF on-track safety program and related training.

### **Proposed Recommendations to FRA**

1. Enforce the current regulatory requirement to equip watchman/lookouts with visual and auditory warning equipment. Immediately inform all railroads and contractors who employ roadway workers regarding the regulatory prohibition of using TAW for the protection of

Roadway Work Groups if the watchman/lookout is not properly equipped with the required visual and auditory warning devices.

2. Audit BNSF's training program "externally" by reviewing the training materials and curricula. Audit BNSF's training "internally" by "posting" FRA inspectors in the training sessions to audit for content, thoroughness, and training delivery methods and techniques. Identify and address any identified deficiencies in the training program.
3. Issue a Safety Advisory reminding all railroads and contractors (employers) regarding their regulatory responsibility to properly equip watchman/lookouts with visual and auditory warning devices such as whistle, air horn, white disk, red flag, lantern, and fuse, and direct employers to train all roadway workers on the proper use and limitations of TAW.
4. Require initial and recurring training for roadway workers in hazard recognition and mitigation pursuant to NTSB Recommendation R-14-03. (NTSB/SIR-14/03)

These comments constitute BMWED's proposed findings, proposed probable cause, and proposed recommendations pursuant to 49 CFR §831.14(a). BMWED appreciates the opportunity to participate as a party to this investigation.

Respectfully

Director, BMWED

Enclosures – BMWED Attachments 1-5

## CERTIFICATE OF SERVICE

I, Roy Morrison, hereby certify on this date (10-6-2017), that I have electronically served Mr. Robert (Joe) Gordon, NTSB Investigator-in-Charge (Robert.Gordon@ntsb.gov) ~~Mr. Ryan Frigo, NTSB Investigator in Charge (ryan.frigo@ntsb.gov)~~, and the Party Spokespersons listed below, a copy of the BMWED's "Proposed findings, Proposed Probable Cause, and Proposed Safety Recommendations" in the matter of two BNSF Employee (Roadway Worker) Fatalities in Edgemont, SD on January 17, 2017; NTSB Docket No: DCA17FR004.

National Transportation Safety Board  
c/o Mr. Robert (Joe) Gordon  
Investigator in Charge, DCA17FR004  
490 L' Enfant Plaza, SW  
Washington, DC 20594  
[REDACTED]

Ryan Ringelman  
General Director System Safety, BNSF  
[REDACTED]

George L Loveland  
BMW, Vice General Chairman  
Burlington System Division  
[REDACTED]

Jim Chase  
SMART/UTU Transportation Safety Team  
[REDACTED]

W.T. "Bill" Smith  
Federal Railroad Administration  
Deputy Regional Administrator  
[REDACTED]

Daniel B. Kenner  
BLET Safety Task Force  
[REDACTED]

Sincerely,













1/24/95

Changes incorporated 2/16-17

**SUMMARY REPORT AND RECOMMENDATIONS**

**of The Joint Labor/Management Task Force**

**For On-Track Safety**

**January, 1995**

**SUMMARY REPORT AND RECOMMENDATIONS  
OF THE JOINT LABOR/MANAGEMENT  
TASK FORCE FOR ON-TRACK SAFETY**

**BACKGROUND:**

Despite the railroad industries concerted efforts to improve safety there were 45 fatally injured engineering department employees, referred to as "Roadway Workers," from 1986 through June of 1994. As a result, the Federal Railroad Administration (FRA) convened a safety summit on June 3, 1994 to address the safety of railroad employees who work on or near live track. The agenda for the safety summit included discussions with senior leaders of labor and management in an effort to determine "what action [should] be taken immediately to --

- \* Alert employees to the significance of the risk posed by moving on-track equipment;
- \* Present pertinent safety and operating rules to employees more effectively; and
- \* Ensure that employees have adequate protection, are mandated to utilize that protection, and are fully aware of their right and responsibility to invoke that protection whenever their duties so require."

During the safety summit a good faith effort to address this most vital safety concern was pledged by the principals and the FRA announced their intent to schedule the first negotiated rulemaking in FRA's history wherein representatives of rail labor, rail management and other interested parties, would develop national rules and procedures aimed at preventing accidents involving Roadway Workers and on-track equipment. It was also determined during the safety summit that immediate industry-wide attention should be focused on assuring Roadway Worker safety pending the results of the negotiated rulemaking.

The FRA has since stated its commitment to the negotiated rulemaking process as a means that will result in the issuance of a Notice of Proposed Rulemaking (NPRM) and final rule that will be acceptable to the members of the Advisory Committee. Finally, the FRA determined that, "because of the need to issue a rule on this subject, FRA is prepared to go forward with an NPRM that is not the product of the negotiations in the unlikely event the negotiation fails or if the committee's recommendation is not acceptable."

Immediately following the safety summit, an industry-wide safety blitz was conducted to raise the awareness of all Roadway Workers about the dangers associated with working on or near live track. Copies of FRA's Engineering Department Fatalities report were distributed to railroads, their employees and employee representatives. On-property labor/management meetings were conducted to review and analyze the individual railroad's injuries and fatalities and solicit suggestions for remedial action. Labor and management both distributed questionnaires soliciting information for analysis regarding rules, procedures and practices dealing with the protection of Roadway Workers engaged in on-track work.

In an effort to coordinate these initiatives and to review existing rules and procedures to facilitate the development of uniform standards for the protection of all Roadway Workers, representatives of the roadway crafts, the Brotherhood of Maintenance of Way Employees (BMWE) and the Brotherhood of Railroad Signalmen (BRS), met with industry representatives from the Association of American Railroads (AAR) to develop an action plan. Subsequently, the parties agreed to form a joint labor/management working group, or task force.

The newly established Task Force for On-Track Safety, or "OTS Task Force," had its organizational meeting on June 28, 1994. The group reviewed their relationship to the Federally-Chartered Advisory Committee and adopted the following mission statement:

#### **OTS TASK FORCE MISSION STATEMENT**

*The OTS Task Force will undertake an objective analysis of the safety problems related to rail industry accident/incidents involving Roadway Workers and moving on-track-equipment (inclusive of trains) and will submit, to the FRA Negotiated Rulemaking Advisory Committee, unbiased recommendations and/or proposed rules to protect Roadway Workers from accident/incidents involving moving trains and other on-track-equipment.*

In order to achieve its stated objective, the OTS Task Force set the following goals:

#### **OTS TASK FORCE GOALS**

- \* The No.1 goal of the OTS Task Force is "Zero Fatalities" associated with moving trains and on-track equipment within the industries engineering/MOW departments.
  
- \* Define and facilitate "on-property consultations."



- \* Compile/analyze all FRA/NTSB/carrier data re: fatalities, accident/incidents and injuries involving Roadway Workers and moving on-track equipment (OTE).
  
- \* Compile/analyze all existing rules, agreements and/or policies, regardless of craft or department, related to the protection of Roadway Workers.
  
- \* Prepare recommendations and/or proposed rules.
  
- \* Report recommendations and/or proposed rules to the FRA Negotiated Rulemaking Advisory Committee.
  
- \* Strict observance of FRA negotiated rulemaking timeline.

**ACTION:**

Recognizing the need to develop unbiased recommendations and/or proposed rules to protect Roadway Workers from accident/incidents involving moving trains and other on-track equipment, the OTS Task Force proceeded with the identification and compilation of safety rules and operating procedures that exist throughout the railroad industry regarding the protection of Roadway Workers engaged in trackside work. The rules were then examined in terms of clarity and effectiveness. To be effective, safety rules and related procedures must be clearly written, easily understood, and presented in a logical coherent manner. Furthermore, safety rules and procedures must prescribe appropriate action that, when followed, will ensure appropriate safeguards to protect Roadway Workers from on-track equipment inclusive of trains.

The OTS Task Force also compiled and examined accident and injury reports involving Roadway Workers and moving equipment to discover causal factors and to agree upon the most effective means of accident/incident prevention. In addition to the fatal accidents summarized in the FRA reports, the OTS Task Force studied all related NTSB reports as well as additional data requested from carrier files.

The OTS Task Force determined that focusing intensely on the accident data and carefully analyzing current safety rules and operating procedures permitted an objective analysis of the safety related problems facing Roadway Workers and facilitated the development of unbiased recommendations regarding the most effective means of accident/incident prevention.

The OTS Task Force investigated 43 accidents/incidents which resulted in 46 Roadway Worker fatalities reported to the FRA from 1986-1994, reviewed over 300 questionnaires

submitted by management and labor concerning existing industry practice, examined information concerning over 150 Roadway Worker specific injuries reported to the FRA from 1989-1994, and considered over 200 supplemental accident/incident reports requested from industry files. The entire investigation included review of more than 2,600 FRA reports as well as analysis of all available NTSB reports related to the foregoing Roadway Worker fatalities. During its deliberations the OTS Task Force convened at more than 20 meetings spanning 7 months as reflected in the following timeline:

**TIMELINE FOR ON-TRACK SAFETY (OTS) TASK FORCE**

<b><u>ACTION</u></b>	<b><u>COMPLETION DATE</u></b>
Roadway Worker Safety Summit (FRA)	6/3/94
Establish Joint Labor Management On-Track Safety Task Force (BMW/BRS/AAR)	6/28/94
Compile all FRA/NTSB/carrier fatality data	7/22/94
Safety Blitz (Carriers)	7/31/94
- On-property consultations	
- Complete "employee protection" questionnaires	
Review/evaluate/prepare selected fatality reports data base	8/18-19/94
Compile all FRA/carrier incident/injury data	8/31/94
Deadline for "employee protection" questionnaires	9/16/94
Review/evaluate/prepare selected incidents/injury data base	9/26-27/94
Review/revise all OTS Task Force data bases	11/1-2/94
Analyze OTS Task Force data bases	11/14/94
Draft OTS Task Force "specific" recommendations and/or proposed rules for Roadway Worker protection	11/15/94
Review/revise "specific" recommendations and/or proposed rules	12/5-6/94
Draft OTS Task Force "general" recommendations	12/15-16/94
Review/revise "general" recommendations	1/9/95
Finalize specific and general recommendations and/or proposed rules - prepare final report	1/19-20/95

Subsequent to analysis of all the data assimilated, the OTS Task Force proceeded with the development of recommendations for proposed rules to protect Roadway Workers from all moving on-track equipment inclusive of trains.

Accordingly, the OTS Task Force respectfully submits the following "Specific" and "General" recommendations for adoption by the FRA Negotiated Rulemaking Advisory Committee and the FRA for incorporation into the final rule for the protection of Roadway Workers. The recommendations employ numerous terms and references unique to their intended application. In order to clearly understand the recommendations a glossary of terms and references with their prescribed definitions is set-forth on page 14. For ease of reference each term is emphasized in **Bold Type** whenever used in the recommendations.

OTS TASK FORCE SPECIFIC RECOMMENDATIONS

Adopted as revised  
3/8 1:50pm

1. Management has the responsibility to ensure that the **On-Track Safety** rules are understood and followed. Employees have the responsibility to follow the rules. Employees can refuse ~~with impunity~~ any directive to violate an **On-Track Safety** rule. Each railroad shall have in place a written procedure to protect the employees' <sup>NO-fault</sup> right to insist on **On-Track Safety** rules compliance.

Set aside  
2/16  
3:30

Adopted 2,  
As revised  
2/16/95 4:50p  
reaffirmed as modified  
3/8 1:59p on set of or

2. Employees must not stand, walk on, or Foul track(s) except when necessary in the performance of their duty ~~(and must maintain a vigilant lookout at all times.)~~

this has to be moved somewhere else

3. Before performing work that requires ~~Fouling the track or Adjacent Track(s)~~ <sup>the</sup> ~~or when~~ <sup>the</sup> hearing or sight (senses) are impaired, **Positive Protection** must be obtained and verified to be in effect by the Roadway Worker assigned responsibility for the work. Large scale track maintenance and/or renovations, such as but not limited to, rail and tie gangs, production in-track welding, ballast distribution, and undercutting, must have **Positive Protection on Adjacent Tracks** as well.

Tabled 2/16  
(Set aside)  
4:45p

Set aside  
2/16/95  
4:45p  
Consensus as modified 3/8 2:36p

4. Authority for **Positive Protection** (except where a **Watchman/Lookout** is used as the sole means of **Positive Protection**) <sup>issued from by a designated employee,</sup> must be recorded and correctly repeated before protection will be considered to be in effect.

or obtained  
and verified



Consensus 3/23/95 11:01 AM  
R5.1

Set Aside  
2/16/95  
5:00 pm

**Positive Protection** (except where a Watchman/Lookout is used as the sole means of **Positive Protection**), upon being established, will be under the absolute control of the Roadway Worker in charge and no movement will be authorized into the work limits without the express authority of the Roadway Worker in charge. *The definition of RWW will be discussed further. No consensus on RWW definition.*

Set aside  
2/12/95  
10:15A

Consensus #6 3/27/95 11:09A awareness (3/27)  
All Roadway Workers shall have "On-Track Safety" training annually.

3/7 1:40 Adopted for drafting of rule

7. ~~All standard~~ rules and operating procedures governing track occupancy and protection must be maintained in one manual and be readily available to all Roadway Workers. Each Roadway Worker responsible for establishing **Positive Protection** shall be provided and shall maintain a current copy.

Set Aside  
2/17 10:59 AM

Set Aside  
2/17 11:09A

Consensus 3/23/95 11:48 AM  
All Roadway Workers responsible for **Positive Protection** of themselves and/or others will be trained, tested and qualified on track occupancy rules annually. *W/RWW caveat.*

Set Aside

9. At the beginning of each work day or before any occupying track(s), a **Job Briefing** regarding **On-Track Safety** and employee protection is to be conducted.

Consensus

10. All trains shall sound whistle/bell when approaching or passing through work sites.

(Change to GR-9)

GR-9  
11.

Track shunts and on-track equipment that shunts the track are recognized as a secondary form of protection and should be encouraged where feasible and authorized. This does not relieve any employee from obtaining and using **Positive Protection**.

Consensus made to make

into Gen. Rule.

being use less than a Gen

12. The Committee recognizes that lineups are ~~decreasing~~ <sup>being use less than a Gen</sup> form of protection in the industry and recommends that lineup use be further reduced, eventually discontinued and replaced with **Positive Protection** as quickly as feasible, grandfathering lineup systems presently in use.

Set Aside

TT-42 A  
2/11/95

Set aside again

on 3/23. Carries to

present alternative

In addition, the OTS Task Force proposes that certain "General Recommendations" be adopted by the Advisory Committee and the FRA for promulgation as industry guidelines to facilitate with implementation of the final rule.

## OTS TASK FORCE GENERAL RECOMMENDATIONS

**GR1** 16% of fatal incidents and 37% of injury incidents were the result of on-track equipment striking Roadway Workers or other roadway equipment. Therefore, special emphasis in training, **Job Briefings**, and operation of on-track equipment must include:

- Attention to visibility/stopping distance
- Review of stopping capability and limitations
- Purpose and limits of work zones
- Attention to existing weather conditions
- Importance of maintaining proper equipment spacing
- Briefing concerning joint track occupancy
- Procedures for travelling on track

**GR2** 35% of non-fatality incidents were on Thursdays and 50% of non-fatality incidents occurred between 730 am and 1030 am to MOW Roadway Workers. Therefore, special emphasis to alert MOW Roadway Workers to these facts must be made in safety awareness training, during **Job Briefings**, and safety meetings and rules training.

**GR3** 69% of fatal incidents to signal maintainers occurred during November, December, and January. Therefore, special emphasis to alert Roadway Workers to this



fact must be made in safety awareness training, during **Job Briefings**, safety meetings, and rules training immediately prior to and during this period.

**GR4** 65% of the fatally-injured Roadway Workers had attended rules training within the previous 12 months. This fact indicates special emphasis must be employed to improve training. Areas of focus should include but not be limited to :

- Curriculum development and content
- Learning environment
- Presentation and interactive instruction
- Understanding and application
- Peer training
- **On-Track Safety** specific subjects

**GR5** 26% of the fatalities involved employees working in a supervisory capacity.

Therefore, special emphasis must be placed on:

- Selection of Managers
- Quality of Training
- Management commitment to **On-Track Safety**
- Priority to **On-Track Safety**
- Serving as a role model

**GR6** Recommend that multi-disciplined task forces be established at the railroad level to include Operating Employees, Maintenance of Way Employees, Signalmen, Dispatchers, Labor Representatives and carrier personnel to improve local Roadway Worker **On-Track Safety**, communication, and rule compliance. Recommendations include (but are not limited to):

- Dispatcher office visits by field personnel
- Field visits by Dispatchers
- Videos of working situations
- Forum to recognize opportunities to improve safety/communication
- Promotion of teamwork

**GR7** Establish a joint labor/management/FRA process to evaluate analyze and encourage emerging technologies which may enhance Roadway Worker **On-Track Safety**. This recommendation is made to allow prompt and thorough evaluation of such emerging technology.

**GR8** The OTS Task Force will continue to meet on a periodic basis (at least semi-annually) to review progress, review current data and to continue a joint labor/management dialogue seeking ways to improve Roadway Worker **On-Track Safety**.

## OTS TASK FORCE GLOSSARY OF TERMS

### **ADJACENT TRACKS:**

Two or more tracks with track centers 25 feet or less.

### **FOULING:**

When an employee and/or equipment is positioned in such proximity to a track that employee and/or equipment would be struck by moving equipment or train.

### **JOB BRIEFING:**

1. Involves all employees immediately prior to work.
2. Discussion of Who, What, When, Where, Why and How the job will be performed and type of protection to be utilized.
3. Briefing to be conducted whenever conditions change.

### **ON-TRACK SAFETY:**

Operating and safety rules that concern track occupancy and protect Roadway Workers from moving trains and other on-track equipment.

### **POSITIVE PROTECTION:**

A system which provides employee protection against trains, engines and cars. Such systems include:

#### Main Tracks:

1. Track Permit
2. Track Warrant
3. Track and Time (confirmed by control operator)
4. DTC Working Time
5. Form "D" (confirmed by control operator)
6. Track Bulletins - Forms "B, DS, MX, Y" ?
7. Watchman/Lookout

When unable to positively protect as provided above, use of flag protection is required. When **Positive Protection** has been established, it must be maintained until the employee requesting it reports clear.

#### Auxiliary, Yard and Industry Tracks:

1. Watchman/Lookout
2. Secured/Diverted Switches
3. Derail
4. Electronic Lockout (confirmed by control operator)
5. When an employee is working with a yard engine crew during snow storms or other emergencies there must be understanding that will assure protection of the employee at all times.

The provisions of restricted speed do not solely provide protection for track equipment or men performing maintenance.

✓ **RULES/SAFETY MEETING:**

Supervisor and employees in forum to exchange information/ideas and enhance safety of operation.

✓ **RULES/SAFETY TRAINING:**

Formal and regularly-scheduled including curriculum, documentation and testing.


**WATCHMAN/LOOKOUT:**


An employee who has been annually trained/qualified to protect employees/equipment against trains or on-track equipment. **Watchman/Lookout** must be properly equipped to provide visual and auditory warning such as whistle, air horn, white disc, red flag, lantern, fusee. A **Watchman's/Lookout's** sole duty is to look out for approaching trains/on-track equipment and provide at least fifteen seconds advanced warning to employees before arrival of trains/on-track equipment. ✓

**CONCLUSION:**


The OTS Task Force recognized the necessity to develop recommendations that will allow efficient railroad operations while simultaneously providing optimum protection for all Roadway Workers. Therefore, we, the undersigned members of the OTS Task Force, feel that adoption of the recommendations set-forth within this report will facilitate achievement of our No.1 goal of "zero fatalities associated with moving trains and on-track equipment within the industries engineering/MOW departments."


RESPECTFULLY SUBMITTED,


  
\*Chuck Dettmann, Executive VP, Operations, Research and Technology, AAR

  
\*Kent Turner, Administrative Assistant, BMWE


  
\*George Gavalla, Director of Research, BRS


  
Jed Dodd, General Chairman PENN Federation, BMWE


  
Craig Donski, Chief Engineer - MW, CNW

  
Bill Duggan, VP Engineering, IAIS - ASLRA


  
Bud Edenfield, Manager Operating Practices and Rules, ATSF


  
Bob Ewers, Manager of Operating Rules, NS

  
Kevin Hussey, Vice Chairman PENN Federation, BMWE

  
Rick Inclima, Director of Education and Safety, BMWE

  
Joe Mattingly, National Representative, BRS

  
Mark Meana, Director of Safety, ATK

  
Bill Van Hook, Assistant Chief Engineer, SP

\*Co-Chairman OTS Task Force

January 20, 1995 Meeting - D.C.

## **ON-TRACK SAFETY TASK FORCE DEFINITIONS**

### **WATCHMAN/LOOKOUT**

An employee who has been annually trained/qualified to protect employees/equipment against trains or on-track equipment. Watchman/Lookout must be properly equipped to provide visual and auditory warning such as whistle, air horn, white disc, red flag, lantern, fusee. A Watchman's/Lookout's sole duty is to look out for approaching trains/on-track equipment and provide at least fifteen seconds advanced warning to employees before arrival of trains/on-track equipment.

### **ON-TRACK SAFETY**

Operating and safety rules that concern track occupancy and protect roadway workers from moving trains and other on-track equipment.

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#### **Main Tracks**

1. Track Permit
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6. Track Bulletins - Forms "B, DS, MX, Y"
7. Watchman/Lookout

When unable to positively protect as provided above, use of flag protection is required. When protection has been established, it must be maintained until the employee requesting it reports clear.

#### **Auxiliary, Yard and Industry Tracks**

1. Watchman/Lookout
2. Secured/Diverted Switches
3. Derail
4. Electronic Lockout (confirmed by control operator)
5. When an employee is working with a yard engine crew during snow storms or other emergencies there must be understanding that will assure protection of the employee at all times.

The provisions of restricted speed do not solely provide protection for track equipment or men performing maintenance.

#### **Job Briefing**

1. Involves all employees immediately prior to work.
2. Discussion of Who, What, When, Where, Why and How the job will be performed and type of protection to be utilized.

3. Briefing to be conducted whenever conditions change.

**Rules/Safety Meeting**

Supervisor and employees in forum to exchange information/ideas and enhance safety of operation.

**Rules/Safety Training**

Formal and regularly-scheduled including curriculum, documentation and testing.

**Fouling**

When an employee and/or equipment is positioned in such proximity to a track that employee and/or equipment would be struck by moving equipment or train.

**Adjacent Tracks**

Two or more tracks with track centers 25 feet or less.

BMWED Supplemental Comments – FRA-2008-0086

The Brotherhood of Maintenance of Way Employees Division of the Teamster Rail Conference respectfully requests FRA to clarify in the final rule that the use of audible and visual warning devices expressly listed in the existing definition of watchman/lookout (214.7) are required mandatory equipment for providing Train Approach Warning under 214.329.

The definition of Watchman/lookout under 214.7 currently reads, in pertinent part, "*Watchmen/lookouts shall be properly equipped to provide visual and auditory warning such as whistle, air horn, white disk, red flag, lantern, fusee.*" (Emphasis added) BMWED was signatory to the original 1996 consensus recommendations to the FRA Administrator which included this mandatory requirement that watchmen/lookouts shall be properly equipped with one of the audible and visual warning devices expressly listed in the definition.

FRA clarified in the section-by-section analysis of the August 20, 2012 NPRM (FR 50350-50351) that "*As explained in FRA Technical Bulletin G-05028, portable radios and cell phones cannot be used as the sole communication to provide train approach warning. FRA believes this practice to be dangerous; especially should these devices fail in any manner as a train approaches a roadway work group. Further, these devices are not among those expressly listed in the existing watchman/lookout definition in 214.7. While FRA has no objection to a radio or cell phone being used to supplement the equipment issued to a watchman/lookout to provide train approach warning, FRA does not consider them to be proper equipment to provide sole auditory warning in accordance with this section.*" (Emphasis added)

Some railroads are using Train Approach Warning provided by Watchmen/lookouts without equipping them with any audible or visual devices whatsoever, in violation of the regulation. There is absolutely no ambiguity in the 214.7 definition that watchmen/lookouts shall be properly equipped to provide visual and auditory warning such as whistle, air horn, white disk, red flag, lantern, fusee. Additionally, there is no ambiguity in Section 214.329(c) which states, "*The means used by a watchman/lookout to communicate a train approach warning shall be distinctive and shall clearly signify to all recipients of the warning that a train or other on-track equipment is approaching.*" (Emphasis added)

It is clearly the intent of the rule that watchmen/lookouts shall be properly equipped with audible and visual warning devices such as those expressly listed in the 214.7 definition of watchman/lookout. And it is clearly the intent of the rule that such audible and visual warnings shall be distinctive and shall clearly signify the approach of a train or on-track equipment.

There have been 10 fatal accidents resulting in 11 roadway worker deaths under watchman/lookout protection since promulgation of the RWP regulations in 1997. In four of these fatal accidents the watchmen were not equipped with audible and visual warning devices such as a whistle, air horn, white disk, red flag, lantern or fusee. In one fatal accident, the investigation was unable to determine if the watchman/lookout was so equipped.

Given the large percentage of deaths that have occurred under Train Approach Warning where the watchman/lookout was not properly equipped, and given the unambiguous language of 214.7 and



214.329(c), BMWED respectfully requests FRA to clarify the existing requirement in the Final Rule that watchmen/lookouts shall be equipped with audible and visual warning devices in accordance with 214.7. FRA should further clarify for the regulated community that equipping watchmen/lookouts with such audible and visual warning devices is mandatory under the law and necessary to provide TAW. Railroads should be advised that they must not use TAW unless the watchman/lookout is properly equipped to provide audible and visual warning which shall be distinctive and shall clearly signify the approach of a train or on-track equipment. Thank you.

crew emergency egress. Contact: Jeffrey Horn (202) 493-6283.

**Task 97-3**—Developing event recorder data survivability standards. This Task was accepted on June 24, 1997. On November 12, 2003, the RSAC gave consensus by ballot on the NPRM. The NPRM is currently in review at OMB with a target date for issuance of April 30, 2004. The National Transportation Safety Board noted the loss of data from event recorders in several accidents due to fire, water and mechanical damage. NTSB requested performance standards for data survivability. Contact: Edward Pritchard (202) 493-6247.

**Task 97-4 and Task 97-5**—Defining Positive Train Control (PTC) functionalities, describing available technologies, evaluating costs and benefits of potential systems, and considering implementation opportunities and challenges, including demonstration and deployment.

**Task 97-6**—Revising various regulations to address the safety implications of processor-based signal and train control technologies, including communications-based operating systems. These three tasks were accepted on September 30, 1997, and assigned to a single Working Group. (Report to the Administrator.) A Data and Implementation Task Force, formed to address issues such as assessment of costs and benefits and technical readiness, completed a report on the future of PTC systems. The report was accepted as RSAC's Report to the Administrator at the September 8, 1999, meeting. FRA enclosed the report with a letter Report to Congress signed May 17, 2000.

(Regulatory development.) The Standards Task Force, formed to develop PTC standards assisted in developing draft recommendations for performance-based standards for processor-based signal and train control systems. The NPRM was approved by consensus at the full RSAC meeting held on September 14, 2000. The NPRM was published in the **Federal Register** on August 10, 2001. A meeting of the Working Group was held December 4-6, 2001, in San Antonio, Texas to formulate recommendations for resolution of issues raised in the public comments. Agreement was reached on most issues raised in the comments. A meeting was held May 14-15, 2002, in Colorado Springs, Colorado at which the Working Group approved creation of teams to further explore issues related to the "base case" issue. Briefing of the full RSAC on the "base case" issue was completed on May 29, 2002, and

consultations continued within the working group. The full Working Group met October 22-23, 2002, and again March 4-6, 2003. Resolution of the remaining issues was considered by the Working Group at the July 8-9, 2003, meeting. The Working Group achieved consensus on recommendations for resolution of a portion of the issues in the proceeding. The full Committee considered the Working Group recommendations by mail ballots scheduled for return on August 14, 2003; however, a majority of the members voting did not concur. FRA has proceeded with preparation of a final rule, which is currently being reviewed in the Executive Branch. (Other program development activities.) Task forces on Human Factors and the Axiomatic Safety-Critical Assessment Process (risk assessment) continue to work toward development of a risk assessment toolkit, and the Working Group continues to meet to monitor the implementation of PTC and related projects. Contact: Grady Cothen (202) 493-6302.

**Task 00-1**—Determining the need to amend regulations protecting persons who work on, under, or between rolling equipment and persons applying, removing or inspecting rear end marking devices (Blue Signal Protection). The Working Group held its first meeting on October 16-18, 2000, and six meetings have been held since then. The Working Group significantly narrowed the issues, but did not reach full consensus on recommendations for regulatory action. The Administrator announced at the full RSAC meeting on December 2, 2003, that the task is withdrawn and the issue may be pursued at a later date. Contact: Doug Taylor (202) 493-6255.

**Task 03-01 Passenger Safety.** This Task was accepted May 20, 2003, and a Working Group was established. The Working Group held its first meeting September 9-10, 2003. At the second meeting held November 6-7, 2003, four task forces were established: mechanical; crashworthiness/glazing; emergency preparedness; and Track/Vehicle Interaction. Task forces to meet and report on activities for Working Group consideration at third meeting scheduled for May 11-12, 2004.

#### Completed Tasks

**Task 96-1**—(Completed) Revising the Freight Power Brake Regulations.

**Task 96-2**—(Completed) Reviewing and recommending revisions to the Track Safety Standards (49 CFR Part 213).

**Task 96-3**—(Completed) Reviewing and recommending revisions to the

Radio Standards and Procedures (49 CFR Part 220).

**Task 96-5**—(Completed) Reviewing and recommending revisions to Steam Locomotive Inspection Standards (49 CFR Part 230).

**Task 96-6**—(Completed) Reviewing and recommending revisions to miscellaneous aspects of the regulations addressing Locomotive Engineer Certification (49 CFR Part 240).

**Task 96-7**—(Completed) Developing Roadway Maintenance Machines (On-Track Equipment) Safety Standards.

**Task 96-8**—(Completed) This Planning Task evaluated the need for action responsive to recommendations contained in a report to Congress entitled, Locomotive Crashworthiness & Working Conditions.

**Task 97-7**—(Completed) Determining damages qualifying an event as a reportable train accident.

**Task 01-1**—(Completed) Developing conformity of FRA's regulations for accident/incident reporting (49 CFR Part 225) to revised regulations of the Occupational Safety and Health Administration (OSHA), U.S. Department of Labor, and to make appropriate revisions to the FRA Guide for Preparing Accident/Incident Reports (Reporting Guide).

Please refer to the notice published in the **Federal Register** on March 11, 1996, (61 FR 9740) for more information about the RSAC.

Issued in Washington, DC on April 26, 2004.

**Grady C. Cothen,**

*Acting Associate Administrator for Safety.*

[FR Doc. 04-9930 Filed 4-30-04; 8:45 am]

BILLING CODE 4910-06-P

## DEPARTMENT OF TRANSPORTATION

### Federal Railroad Administration

#### Notice of Safety Advisory 2004-01

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

**ACTION:** Notice of safety advisory.

**SUMMARY:** The FRA is issuing Safety Advisory 2004-01 to address recommended safety practices and review existing requirements for the protection of roadway workers from traffic on adjacent tracks and to heighten awareness to prevent the inadvertent fouling of track when on-track safety is not provided.

**FOR FURTHER INFORMATION CONTACT:** Christopher F. Schulte, Specialist, Track Division, Office of Safety Assurance and Compliance, Federal Railroad Administration, U.S. Department of

Transportation, 1120 Vermont Avenue, NW., Washington, DC 20590. Telephone: 202-493-6251; or Cynthia Walters, Office of Chief Counsel, FRA 1129 Vermont Avenue, NW., Washington, DC 20590. Telephone: 202-493-6064.

#### SUPPLEMENTARY INFORMATION:

#### Background

The Roadway Worker Protection regulation ("regulation" "rule" or "roadway worker rule") (Subpart C of 49 CFR part 214) has proven to be an effective tool for reducing roadway worker fatalities. Since the regulation became effective in 1997, roadway worker fatalities have declined significantly. However, in 2003, there were five roadway worker fatalities, compared with one fatality in 1999. This suggests that more needs to be done to protect roadway workers. FRA believes that increased awareness by railroads, contractors to railroads, and their employees of certain dangers and how to avoid or minimize them may save lives.

From 1997 to the present, 20 fatalities have been attributed to non-compliance with the regulation. Ten of the 20 fatalities occurred when workers entered fouling space and were struck by a train or on-track equipment. Four of the 10 fatalities involved workers fouling adjacent track in error, while the remaining six have been categorized as involved workers fouling any track in error or fouling a track when unnecessary to perform work duties. This Safety Advisory addresses the circumstances involved in these ten fatalities-inadvertent fouling of tracks or fouling of tracks when unnecessary to perform work.

FRA and other members of the railroad industry have become increasingly concerned about these two categories of roadway worker fatalities. The regulation addresses the first category by requiring on-track safety protection through watchman/lookouts on adjacent track outside working limits for large-scale maintenance or construction (§ 214.335). Accordingly, working limits is an acceptable form of on-track safety for adjacent tracks. The second concern is also addressed in part by the regulation. It prohibits a roadway worker from fouling the track unless necessary for the performance of the worker's duty (§ 214.313(b)). The regulation also encourages heightened awareness among workers of their surroundings. See 61 FR 65966. In light of the number of recent roadway worker fatalities, FRA believes additional attention and emphasis needs to be

placed on worker protection in both situations cited above.

#### Protection of Workers on Adjacent Tracks

The concept of protecting roadway workers from the hazards of trains and other on-track equipment on adjacent tracks is an important element of the roadway worker rule. Section 214.335(c) of the rule requires that roadway work groups engaged in large-scale maintenance or construction be provided with train-approach warning for movements on adjacent tracks that are not included within working limits. As noted in the preamble of the rule, "this [P]aragraph c . . . details the conditions under which train approach warning must be used on adjacent tracks that are not within work limits. These are conditions in which the risk of distraction is significant, and which require measures to provide on-track safety on adjacent track." See 61 FR 65971. Although "large-scale construction or maintenance" is not specifically defined in the regulation, FRA quoted approvingly from a recommendation issued by the Federal Roadway Worker Advisory Committee. That committee described large-scale activities as those including "track maintenance and/or renovation, such as but not limited to, rail and tie gangs, production in-track welding, ballast distribution, and undercutting." See 61 FR 655971.

Although FRA focused on "large-scale" activities as those that can be distracting to the roadway worker, other activities that are not necessarily "large-scale," also may have the potential to be distracting. Maintenance-of-way work has become increasingly mechanized—inspection, light maintenance, or emergency repairs are often accomplished by work crews consisting of a small number of individuals. Such activities where workers are preoccupied, distracted by noise, or drawn away from the zone of protection by their project-related duties may make it more likely that roadway workers and roadway maintenance machines will foul the adjacent track and possibly be struck by approaching or passing trains.

The difficulty in determining when certain types of work should be classified as "large-scale" and the concern for potentially unsafe small-scale activities has prompted rail labor to request a regulation change mandating on-track safety for all roadway work groups on adjacent track, regardless of the scope of the work. Although FRA has decided not to pursue a regulation change at this time, FRA believes it may be prudent for

railroads and contractors to evaluate, on a case-by-case basis, whether work has the potential to foul or intrude on the adjacent track and consider protecting such work, even when the work would not be considered "large-scale."

#### On-Track Safety on Adjacent Track

The roadway worker rule established requirements addressing on-track safety on adjacent track.

When using working limits, the roadway worker in charge of the working limits has the authority to actually direct train movement on the adjacent track. For controlled track, trains or on-track equipment can only move through the working limits at restricted speed or a speed determined suitable for the situation by the roadway worker in charge (§ 214.321(d)). For non-controlled track, trains and on-track equipment may only move at restricted speed (§ 214.327). If working limits are established for an adjacent track, it is important to consider the risks that remain when trains are permitted to pass through. Any maintenance or construction activity that has the potential to intrude onto the track must cease before trains are permitted to pass through working limits on adjacent track. Otherwise, any work that may cause an employee to foul the adjacent track would be unprotected. Based on the foregoing, railroads should have detailed procedures for directing trains through adjacent working limits, including a requirement mandating that further activity will not cause workers or equipment to foul the adjacent track. However, train-approach warning must be provided if further work is performed that may result in workers intruding into an adjacent track after a train is directed through.

#### Inadvertent Fouling

The concept of not fouling the track unless necessary for the performance of

duties is a core element of the regulation. This concept has been codified in § 214.313, which addresses the responsibility of individual roadway workers and imposes specific requirements on individual roadway workers. It is imperative that roadway workers comply with § 214.313 and refrain from purposefully encroaching on the fouling space, unless absolutely necessary to perform their duties. Compliance with this requirement prohibits walking in the fouling space after work is complete and requires that roadway workers remain alert at all times. As long as roadway workers are moving about the right-of-way under traffic (even if their work has been completed), there is a continuous risk of being struck by a train or maintenance-of-way equipment. We note that this section also imposes on each roadway worker the responsibility to ascertain that on-track safety is being provided before fouling a track, and provides the worker with the right to refuse any directive to violate an on-track safety rule.

A second critically important concept involves lone workers using individual train detection as their method of on-track safety. Individual train detection is only appropriate in limited circumstances, as outlined in § 214.337. It is not an appropriate form of on-track safety where there is a risk of distraction that may prevent the lone worker from being in a heightened state of awareness. Workers are more likely to inadvertently step into the fouling space when they are engrossed in their duties or are using individual train detection in locations that are inappropriate due to the geography or current physical conditions.

FRA believes that the focus on heightened awareness appears to have deteriorated, causing increased occurrences of inadvertent and careless fouling of the track. As noted above, FRA's fatality data attribute six fatalities in the past seven years to roadway workers mistakenly stepping into the fouling space, directly into the path of a train.

FRA realizes that throughout the course of a workday, roadway workers need to cross tracks and do so safely, since even tracks protected by a form of on-track safety can be dangerous. However, the roadway worker rule clearly prohibits unnecessary fouling and, by emphasizing roadway worker awareness, attempted to prevent careless and inadvertent encroachment of the fouling space.

To further enhance safety, it is suggested that railroads and contractors to railroads install and utilize, as

appropriate, rotation stops on roadway maintenance machines to prevent equipment from inadvertently fouling adjacent tracks.

#### Recommended Action

It is important to note that, like many FRA railroad safety standards, the roadway worker regulation merely prescribes minimum standards. Railroads and railroad contractors are free to prescribe additional or more-stringent standards consistent with the rule. (§ 214.301(b)).

FRA recommends that railroads and contractors to railroads develop and implement basic risk assessment procedures for use by roadway workers to determine the likelihood of adjacent track intrusion prior to initiating work activities (whether large-scale or small-scale activities). For example, if the work can be conducted by individuals positioned between the rails of a protected track, they would not foul an adjacent track. Likewise, light work where there is a structure between the tracks to prevent intrusion might be safely conducted without adjacent track protection. Examples would include a fence between the tracks at a passenger train station and the tall beam of a through-plate girder bridge.

Work that requires employees to be on the field side of the protected track toward an adjacent track would have a much greater likelihood to foul that adjacent track. Under these circumstances, it is necessary to consider the nature of the work and the track-center distance. While the roadway worker regulation specifies a 25-foot center that triggers mandatory adjacent track protection for large-scale work, this number can serve as a guide when conducting a risk assessment for activities with minimal intrusion potential. For example, when a small crew is working and the activity requires an employee to be in a position between the tracks, it would be wise to determine which particular track-center distance would be safe. This determination will help to ensure that the adjacent track would not be fouled if a worker were to inadvertently trip and fall. Other risk factors to consider would be the nature of the work (inspection or repair), sight distances, and the speed of trains on the adjacent track. Upon completion of an on-site risk assessment, the on-track safety briefing required by § 214.315(a) is perhaps the ideal instrument to implement preventive measures concerning adjacent tracks.

In addition to the above recommendation concerning basic risk assessment, FRA is recommending that

railroads and contractors to railroads consider taking the following actions:

- Use of working limits for activities where equipment could foul adjacent track (whether large-scale or small-scale activities);
- Use rotation stops to mitigate the dangers associated with on-track equipment and trains passing on adjacent tracks;
- Review procedures for directing trains through adjacent track working limits, and enhance such procedures when necessary;
- Install adjacent track warning signs/devices in the operating cab of on-track machines to remind roadway maintenance machine operators to not inadvertently depart the equipment onto a track where there may be trains and other on-track equipment passing;
- Provide additional training and monitoring to its employees, emphasizing the need to cross tracks in a safe manner (*i.e.*, single file and after looking in both directions);
- Reinforce to individual roadway workers that it is critical not to foul a track except in the performance of duty and only when on-track safety has been established. This training could be accomplished through training sessions, as well as daily job briefings; and
- Institute peer-intervention measures by which workers are encouraged to intervene when observing another roadway worker engaging in potentially noncompliant and unsafe activity.

Issued in Washington, DC, on April 27, 2004.

**Grady Cothen,**

*Acting Associate Administrator for Safety.*

[FR Doc. 04-9952 Filed 4-30-04; 8:45 am]

BILLING CODE 4910-06-P

## DEPARTMENT OF THE TREASURY

### Internal Revenue Service

#### Proposed Collection; Comment Request for Form 1065, Schedule D, and Schedule K-1

**AGENCY:** Internal Revenue Service (IRS), Treasury.

**ACTION:** Notice and request for comments.

**SUMMARY:** The Department of the Treasury, as part of its continuing effort

## Gordon Robert (Joe)

**From:** Kendall Edward  
**Sent:** Thursday, June 29, 2017 3:22 PM  
**To:** Gordon Robert (Joe); Gura Cyril  
**Subject:** FW: Responses to NTSB Request Graettinger DCA17MR007  
**Attachments:** Sunshine AZ accident report.pdf; FAMES\_Watchman\_1 .0.pdf

Actually it is for Edgemont- see questions and answers bellows.

During this time NTSB had requested information from FRA on multiple accidents. The email subject line references Graettinger, DCA17FR007; however, the content of this email was in response to a request related to the Edgemont, SD accident, DCA17FR004.

**From:** Moore, Aaron (FRA)  
**Sent:** Thursday, June 29, 2017 3:18 PM  
**To:** Kendall Edward  
**Cc:** Moore, Aaron (FRA)  
**Subject:** Responses to NTSB Request Graettinger DCA17MR007 Hi Kendall,

Please see below and attached FRA's responses to NTSB's requests. Please let me know if you would like to discuss anything.

Thanks!!

1. FRA Internal Database Violations for BNSF for the year 2016 (BNSF/SD/County) for § 214.329 defects/violations.

**Answer:** For the year 2016, FRA issued no defects or violations of § 214.329 to BNSF for Fall River County, South Dakota.

2. Copy of all FAMES reports involving train approach warning (including one dated 01/06/2014).

**Answer:** See attached the January 6, 2014 report.

3. Opinion from FRA legal staff as the definition of shall/will in § 214.329(g) for required roadway worker items.

**Answer:** Section 214.329(g) reads: "Every watchman/lookout shall be provided by the employer with the equipment necessary for compliance with the on-track safety duties which the watchman/lookout will perform." The use of "shall" imposes a mandatory duty upon the employer to, as stated in FRA's Roadway Worker Protection Compliance Manual, "provide the watchman/lookout employee with the requisite equipment necessary to carry out his on-track safety duties. It is intended that a railroad's on-track safety program would specify the means to be used by watchmen/lookouts to communicate a warning, and that they be equipped according to that provision."

4. Copy of 01/2009 Sunshine Arizona accident report that involved BNSF.

**Answer:** Please see attached a copy of FRA's accident report. Per our phone conversation on June 14, 2017, please contact me if you need copies of the attachments to the accident report. If so, the attachments would then either have to be kept in the closed (non-public) docket due to containing personally identifiable information, or redacted.

5. Any and all documents associated with a review of BNSF's Roadway Worker Program for the time period of 01/2009 through present pursuant to 49 C.F.R. 214.307(b). Has BNSF's Roadway Worker Protection program been reviewed, if so by what region, employees and what was the date of such review. Were there any exceptions taken with regard to such review. Please provide all relevant documents.

**Answer: FRA reviewed BNSF's On-Track Safety Program pursuant to 49 C.F.R. 214.307(b) between 1998 and early 2000s, but does not have documents associated with that review. Per our phone conversation on June 14, 2017, FRA has reviewed relevant sections of BNSF's On-Track Safety program as part of certain accident investigations (including the Edgemont accident investigation) and as part of other enforcement activities since 01/2009. Please contact me if you would like documents related to those reviews.**

6. Comments received by FRA for the original 1996/1997 Roadway Worker Program Rule as well as any comments that relate to amendments to the Roadway Worker Program Rules including but not limited to amendments to adjacent track requirements, miscellaneous revisions and revisions to the RWP program.

**Answer: All comments to FRA's electronic dockets can be accessed on [www.regulation.gov](http://www.regulation.gov). Please search for docket number FRA-2008-0059 for the Adjacent Track rule (there were multiple publications over a period of a few years all associated with the same docket number) and FRA-2008-0086 for the Miscellaneous Revisions. The comments to the 1996 Rule were not in an electronic docket. FRA is still attempting to locate and gather copies of the comments to provide to NTSB.**

7. Any and all documents related to post-accident audits of BNSF Roadway Worker Protection Programs undertaken by the FRA for the time period of January 2017 through April 6, 2017 that arose from the Edgemont Accident, whether voluntarily done by BNSF or completed by FRA.

**Answer: FRA's investigation is ongoing at this time. With that said, following the Edgemont accident, as part of its investigation FRA reviewed the watchman/lookout provisions of BNSF's On-Track Safety Program and noted no exceptions.**

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