DCA11FR002
Collision - BNSF
Red Oak, Iowa
April 17, 2011

Track Group Factual

National Transportation Safety Board

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Burlington Northern Santa Fe
Rear-end Collision
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Track Group:

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Synopsis

On April 17, 2011, about 6:55 a.m. central daylight time[1], eastbound BNSF coal train C-BTMCNM0 26A, BNSF 9159 East, collided with the rear end of standing BNSF maintenance of way (M of W) equipment train U-BRGCRI5 15G, BNSF 9470 East, near Red Oak, Iowa. The accident occurred at milepost (MP) 448.3 on the number two track on the Creston Subdivision of the BNSF Nebraska Division. The BNSF 9159 East (coal train) was travelling about 23 mph when it struck the standing train.

The coal train consisted of 130 loaded coal cars, weighed 18,529 tons, and was 7,122 feet long with two locomotives on the head end of the train and one distributed power locomotive on the rear end of the train. The maintenance of way equipment train consisted of 21 loaded cars, 13 empty cars, weighed 2,635 tons, and was 3,170 feet long with one locomotive on the head end.

As a result of the collision, the two coal train locomotives derailed along with the first two coal cars. The locomotive crew cab of the striking train was damaged and involved in a

[1] All times in the remainder of this report will be central daylight time.

subsequent diesel fuel fire. Seven additional coal cars were also damaged but did not derail. Nine cars of the standing M of W train derailed. Both the engineer and conductor on the coal train were fatally injured. The two crew members on the locomotive of the M of W equipment train submitted injury reports to the BNSF following the accident. Damages were estimated at $8 million. The reported weather at the time of the accident was 5 miles visibility with mist at Red Oak Airport which is about two and one half miles east of the accident location.

Locomotive event recorder data from the BNSF 9159 East indicated that just before the collision, train speed increased and the throttle was decreased as the train crested a hill west of the accident site. The coal train emergency brakes were not applied before impact.

Parties to this investigation are the Federal Railroad Administration, the BNSF railway, Electro Motive Diesel (the manufacturer of the lead locomotive on the coal train), the Brotherhood of Locomotive Engineers and Trainmen, and the United Transportation Union.

Track Description

At the accident site there were two main tracks, each signaled for train movements in both directions and part of a Centralized Train Control system controlled by a train dispatcher in Fort Worth, Texas at the BNSF operations center.

The tracks were primarily parallel and situated east and west. The northern most track was designated the No. 1 main track and the southernmost track was designated the No. 2 main train. This configuration is often referred to as multiple main.

The rail was 136# NKK on both the No. 1 and No. 2 main track and it was all continuous welded rail. The rail was laid on Grade #5 wood ties spaced at 19.5 inch centers. The tie plates were 14 inch with an 8 spike hole configuration. The spikes were standard chisel style and applied with the following pattern; inside east – outside west for the line spikes and the anchor spikes were applied opposite each other. The anchor/clip pattern was box anchored every other tie. The ballast was 2½ to ¾ inch crushed rock dressed with a 2:1 side slope.

The yearly tonnage for the tracks at the accident site was 94 million gross tons (mgt) on No. 2 main track and 23 mgt on the No. 1 main track.

End