



Federal Railroad Administration

Memorandum

Date: May 25, 2011

Subject: DRA-11-FR-004

From: Kendall Christ – Federal Railroad Administration
Bobby Moore - CSX Transportation

To: Wayne Workman
Investigator in Charge
National Transportation Safety Board

On May 24 and 25, 2011, representatives of the Federal Railroad Administration (FRA) and CSX Transportation (CSX) in association performed an inspection of the track structure as part of the National Transportation Safety Board (NTSB) investigation of the collision between two CSX trains near milepost (MP) SG 314.2 on the Monroe Subdivision. The team included Kendall Christ, FRA Track Safety Specialist, and Bobby Moore, CSX Division Engineer.

The inspection included a walking inspection of the CSX main track between MP SG 313.4 and MP SG 314.4, a review of geometry car reports, track inspection reports, ultra-sonic rail tests, and on the ground observations.

Starting at the point of initial impact between trains, gage, superelevation, and curvature measurements were taken at stations spaced 15.5 foot apart using a 62 foot chord. The measurements were recorded and evaluated for any deviations or exceptions in gage, superelevation, and curvature. The team used the Vmax formula with 3-inches of unbalance to determine that track geometry would allow a train speed of up to 57 miles per hour (mph). According to CSX Florence Division Timetable No. 6, the maximum operating speed at SG 314.2 is 50 miles per hour (mph), FRA Class 4.

No geometry exceptions were discovered during this track inspection.

The walking track inspection included analysis of crosstie, rail, ballast, fastener, rail anchor, and vegetation conditions. The tangent track from MP SG 314.4 is constructed with 132 lb. RE continuous welded rail (CWR), wood crossties, 15 inch tie plates, track spikes used for fasteners, box anchored on every other crosstie, and a clean, full ballast section. The rail is held in place with two track spikes on the gage side and one spike on the field side. The full body of the curve is constructed with 136 lb. RE CWR rail, wood crossties, 18 inch tie plates, track spikes, box anchored every crosstie, and a clean, full ballast section. The rail is held in place with two track spikes on the gage side, one spike on the field side, and one hold down spike on the field side.

The water carrying facility on either side of the track is free of obstruction. Vegetation is present on both sides of the track but is not within the track envelope, or brushing the side of rolling stock.

No track structure exceptions were discovered during this track inspection.

The FRA DOTX 217 Geometry Car operated on the Monroe Subdivision on January 14, 2011. The DOTX 217 did not record any exceptions to geometry conditions within ten miles either direction of the collision location. The curve analysis from the DOTX 217 reported the geometry of the curve would allow a maximum train speed of 57 mph.

The CSX Geometry Car operated on the Monroe Subdivision on March 16, 2011. The CSX Geometry Car did not record any exceptions to geometry conditions within ten miles either direction of the collision location.

Sperry Rail Services Ultra-Sonic Rail tests dated August 10, 2010, and March 11, 2011, recorded three rail defects within one mile of SG 314.2. All three defects were Oxygen/Acetylene Welds with internal anomalies. CSX rail records reflect these defects and the replacement of defective welds on the August 11, 2011. All three of the rail defects were in tangent track south of the collision location.

CSX Track Inspection records between April 25, 2011 and May 23, 2011, reflect the section of track between SG 306.3 and SG 317.1 inspected by CSX track inspectors 10 times during the one month period. No defects are recorded within two miles of the collision location.

No Geometry or Rail defects generated by mechanical sources were discovered within the collision location.

The facts and statements presented in this report are true and correct.