

Accident Summary DCA17MR007

On Friday, March 10, 2017, about 12:50 a.m., central standard time, eastbound Union Pacific Railroad (UP) unit ethanol train, UEGKOT-09, with 3 locomotives, 98 loaded tank cars and 2 buffer cars filled with sand derailed near milepost (MP) 56.8 at a timber railroad bridge near Graettinger, Iowa.¹ Twenty (20) loaded tank cars in positions 21 through 40 derailed. Fourteen of the derailed tank cars released product fueling a post-accident fire. The accident occurred near Jack Creek, a tributary of the Des Moines River. An estimated release of 322,000 gallons of undenatured ethanol released in this accident.² There were no injuries and no evacuation. About 400-feet of railroad track and a 152-foot railroad bridge was destroyed in the accident. UP estimated damages at \$3.65 million.³ Weather at the time of the accident was reported to have winds from the northwest at 17 mph gusting to 30 mph, visibility was 10 miles, and the temperature was 10° Fahrenheit. Figure 1 shows an overhead view of the accident.

¹ Title 49, *Code of Federal Regulations*, Part 237.5 defines *railroad bridge* as any structure with a deck, regardless of length, which supports one or more railroad tracks, or any other under grade structure with an individual span length of 10-feet or more located at such a depth that it is affected by live loads.

²² *Undenatured ethanol* refers to pure ethyl alcohol without a denaturant added to it.

³ This estimate does not include environmental remediation or the cost of clearing the accident.



Figure 1. The accident site.

A review of the lead locomotive’s event recorder data showed the train was travelling at 28 mph with the throttle operating between T2 and T1 moments before the derailment.⁴ About 70-seconds prior to an un-commanded initiation of an emergency train brake, the throttle was positioned to idle. Moments before the undesired application of the emergency brake, the engineer was sounding the train horn for an upcoming grade crossing. The event recorder data showed the un-commanded emergency brake activated at about 12:50 a.m.

⁴ The throttle has eight steps as it moves from idle to full power and the steps are referred to as T positions 1 through 8.

Parties to the investigation include, the Federal Railroad Administration, Union Pacific Railroad, Brotherhood of Locomotive Engineers and Trainmen, Sheet Metal, Air, Rail and Transportation Workers, Brotherhood of Railroad Signalmen, TrinityRail, Brotherhood of Maintenance of Way Employes and the Iowa Emergency Management of Palo Alto County.